

Proficiency* HMI/SCADA - iFIX

VIEWING PICTURES FROM A WEB BROWSER

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About this Guide

The iFIX* WebSpace product is an add-on option for the iFIX and Proficy Pulse products. The iFIX WebSpace product allows you to open iFIX or Proficy Pulse pictures in run mode from a web session. The iFIX WebSpace is a server-based, thin-client solution that eliminates the need for Citrix MetaFrame or Windows Terminal Services.

The following sections provide general information on the iFIX WebSpace product, and how to configure, administer, and use it with either iFIX or Proficy Pulse:

- System Requirements
- Language Support
- iFIX WebSpace Features
- iFIX WebSpace Server Components
- Unsupported Features for the iFIX WebSpace
- Configuration Overview - iFIX WebSpace
- Administering the iFIX WebSpace Server
- Configuring Optional Web Session Properties
- Deploying and Running iFIX WebSpace Sessions
- Advanced Topics
- Reference Information
- Glossary

System Requirements

Operating Systems

The **iFIX WebSpace Server**, **Relay Server**, or **Dependent Server** requires one of the following Windows operating systems:

- Microsoft® Windows® XP Professional, Service Pack 3 or greater (no 64-bit support).
- Microsoft® Windows® Vista™, Service Pack 2, Business, Enterprise, or Ultimate Edition.
- Microsoft® Windows® Server 2003, Service Pack 2 or greater, Standard or Enterprise Edition.
- Microsoft® Windows® Server 2008 (32-bit), Service Pack 2 or greater, Standard or Enterprise Edition.

NOTE: Be aware that the maximum, supported RAM on the Standard Edition for Windows Server 2008 (32-bit) and Windows Server 2003 is 4GB, and this may limit the performance. For better performance, it is recommended that you use a 64-bit operating system, or an operating system that supports Physical Address Extension (PAE). PAE is available on the

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Enterprise version of Windows Server 2003 and the Windows Server 2008 (32-bit).

- Microsoft® Windows® Server 2008 R2 (64-bit), Service Pack 1, Standard or Enterprise Edition.
- Microsoft® Windows® 7 (64-bit), Service Pack 1, Professional, Enterprise, or Ultimate Edition.

NOTES:

- *It is strongly recommended that file servers and web servers use the Microsoft Windows Server 2003 or greater operating system and avoid using Windows XP.*
- *It is also strongly recommended that you do not use Windows Workgroups with the iFIX WebSpace.*
- *For 64-bit operating systems, a boot message appears on restart after you install the iFIX WebSpace Server. Be sure to select the operating system with the iFIX WebSpace Enabled, and then proceed with the restart. This message is expected behavior.*
- *The iFIX WebSpace Server is not supported on the Windows XP Embedded operating system.*

The **iFIX WebSpace Web Session** can be run on any of the following Windows operating systems:

- Microsoft® Windows® XP Professional, Service Pack 3 or greater.
- Microsoft® Windows® Vista™, Service Pack 2, Business, Enterprise, or Ultimate Edition.
- Microsoft® Windows® Server 2003, Service Pack 2 or greater, Standard or Enterprise Edition.
- Microsoft® Windows® Server 2008 (32-bit), Service Pack 2 or greater, Standard or Enterprise Edition.
- Microsoft® Windows® Server 2008 R2 (64-bit), Service Pack 1, Standard or Enterprise Edition.
- Microsoft® Windows® 7 (32-bit or 64-bit), Service Pack 1, Professional, Enterprise, or Ultimate Edition.

NOTES:

- *Running iFIX WebSpace web sessions (browser or desktop client) on the same computer as the iFIX WebSpace Server is not supported.*
- *Proficy iFIX WebSpace sessions (clients) can log in from operating systems in other languages. However, for this to work, the input language must be added to the iFIX WebSpace Server, and the keyboard layout for the client in that locale must be set. For more information, refer to the Configuring Multiple Input Locales section.*
- *While running the iFIX WebSpace Server and the SCADA Server on the same machine is supported, it is strongly recommended that production SCADA Server reside on a different machine than the iFIX WebSpace Server (when using iFIX WebSpace with iFIX).*

Web Server Software

- Microsoft Internet Information Server (IIS) 5.1, 6.0, 7.0, or 7.5.
- Apache HTTP Server 2.2.10 or greater.

Port Usage

When you install the iFIX WebSpace, and the firewall is enabled, the install automatically prompts you to add the iFIX WebSpace to your exception list. The following port numbers are used by the iFIX WebSpace:

- Port **491** is the port on which the “iFIX WebSpace Server Application Publishing Service” listens on (for both TCP and SSL).
- Port **492** is the port used by the “iFIX WebSpace Relay Client Manager Service” to centrally manage the WebSpace user count in a Relay Server configuration.

Be aware that if you change either of the port numbers, you should restart the iFIX WebSpace services and any other services that depend on it. For example, if you change port 491 and you allow client printing, you must restart the “iFIX WebSpace Application Publishing Service” and the Print Spooler Service in order for client printing to work on a port other than the default port 491. For more on port usage, refer to the Modifying the Server Ports section.

Web Browsers for Proficy iFIX WebSpace sessions

- Microsoft Internet Explorer (32-bit browsers only; 64-bit browsers are not supported). The following versions were tested: 7.0, 8.0, and 9.0.
- Mozilla Firefox. The following versions were tested: 4.0, 5.0, 6.0, 7.0, and 8.0.

NOTE: If you are using Microsoft Internet Information Server (IIS) 6.0, and plan to allow for Mozilla Firefox web sessions, modify IIS to serve a document with an xpi extension as a registered MIME type on that server (MIME type is application/octet-stream, Extension is .xpi). IIS 6.0 does not serve unknown MIME types. Please see KB article 326965 on the Microsoft Knowledgebase for more information:
<http://support.microsoft.com/default.aspx?scid=kb;en-us;326965>.

- For a list of experimental clients available at the time of release, refer to the allClients.html file on the iFIX WebSpace Server in the directory where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server. The experimental clients listed in this file are not officially supported by GE Intelligent Platforms, but are available for testing. After the iFIX WebSpace releases, look to the GE Support web site for additional updates: <http://support.ge-ip.com>.

Other Requirements

- The Administrator on the web server must have administrative user rights on the server. A web server must be available in order to set up the server for browser deployment of iFIX WebSpace, and the server must have TCP/IP as a network protocol.
- The memory and CPU requirements of an iFIX WebSpace Server are determined by the applications that are published and the number of users accessing the system. For the client web sessions, the higher the CPU speed and the larger the amount of memory, the better your picture load time and performance while running those pictures.

- For other hardware requirements, refer to the Important Product Information (IPI) help.
- For a list of unsupported features, refer to the Unsupported Features for the iFIX WebSpace section.

Language Support

The language of the installed iFIX WebSpace product must match the language of the iFIX or Proficy Pulse software that you are running. The following table outlines the currently supported languages, product combinations, and supported operating systems for those products. When using the iFIX WebSpace with iFIX (the recommended configuration requires installing these servers on two separate computers), the operating system language must match.

Product Language	Product Combinations	Supported Operating System (OS) for Install
English	iFIX and iFIX WebSpace	English OS, Chinese OS, Japanese OS, Polish OS, Russian OS, French OS, and German OS – all <u>only</u> with English regional settings
English	Proficy Pulse and iFIX WebSpace	English OS, Chinese OS, Japanese OS, Polish OS, Russian OS, French OS, and German OS – all <u>only</u> with English regional settings
Chinese	iFIX and iFIX WebSpace	Chinese OS, with local regional settings
Chinese	Proficy Pulse and iFIX WebSpace	Chinese OS, with local regional settings
Japanese	iFIX and iFIX WebSpace	Japanese OS, with local regional settings
Japanese	Proficy Pulse and iFIX WebSpace	Japanese OS, with local regional settings
Polish	Proficy Pulse and iFIX WebSpace	Polish OS, with local regional settings
Russian	iFIX and iFIX WebSpace	Russian OS, with local regional settings
French	iFIX and iFIX WebSpace	French OS, with local regional settings
French	Proficy Pulse and iFIX WebSpace	French OS, with local regional settings

Product Language	Product Combinations	Supported Operating System (OS) for Install
German	iFIX and iFIX WebSpace	German OS, with local regional settings
German	Proficy Pulse and iFIX WebSpace	German OS, with local regional settings

For more information on the available product version for each language, contact your regional Sales Representative. For a detailed list of the supported Windows Operating Systems (OS) for the iFIX WebSpace, refer to the System Requirements section.

Unsupported Items

- GE Intelligent Platforms does not support running the iFIX WebSpace Server on a different Operating System (OS) language than the iFIX SCADA Server. Both OS languages must be the same for each server. For example: one supported combination is an English OS for the iFIX SCADA Server, and an English OS for the iFIX WebSpace Server.
- iFIX client/server configurations with different OS languages are not supported. For instance, connecting an English SCADA Server (on an English OS) with a German View node or iClient (on a German OS) is not supported. However, iFIX WebSpace sessions can log in from operating systems in other languages if the input language is added to the iFIX WebSpace Server, and keyboard layout for the client is set in that locale. For more information, refer to the Configuring Multiple Input Locales section.
- GE Intelligent Platforms does NOT support running the localized version of the product on an English operating system.
- Multilingual User Interface versions of the Windows operating systems are not supported by the iFIX or Proficy Pulse product.

iFIX WebSpace Features

The iFIX WebSpace product provides the following features:

- **Background Tasks:** The iFIX WebSpace Server allows other tasks to run such as drivers, a background server, ALMODBC tasks, the SAC task, the Proficy Historian for SCADA Archiver, the iFIX Collector, and anti-virus software such as McAfee and Norton.
- **Client Access:** Provides transparent access to client-side resources like printers, files, sounds, and so on. It also provides seamless integration of client drives, and client machines' serial and parallel ports.
- **Client-Side Password Caching:** With this feature, the user's user name and password are taken from the iFIX WebSpace Server Logon dialog box after the first manual authentication and used automatically when the user accesses the web client again from that machine.
- **Display Capability:** The iFIX WebSpace session displays all graphics developed using the Workspace as is, and without conversion.
- **Enhanced Failover:** The iFIX WebSpace Server supports the iFIX Enhanced Failover

configuration only when the iFIX WebSpace Server machine is separate to the SCADA pair. The iFIX WebSpace Server does not support Enhanced Failover while running on either of the SCADA machines configured in a redundant pair. The iFIX WebSpace session will successfully switch over to the secondary SCADA in a failover scenario.

- **Exporting Data:** The iFIX WebSpace sessions support exporting of data from Trend Charts and Proficy Historian to a local drive.
- **iFIX WebSpace Administration Dashboard:** Allows the system administrator to manage the iFIX WebSpace Server application.
- **Inactivity Time-out:** Through the iFIX WebSpace Administration tool, administrators can specify time limits for the number of minutes of client inactivity.
- **Licensing:** The iFIX WebSpace Server manages a server-based license for iFIX WebSpace sessions and iFIX or Proficy Pulse functionality. In the License Viewer, there is a key field for the iFIX product, "Number of Web Server Connections." In a Relay Server configuration, the Relay Server manages the session licenses.
- **Multiple Sessions:** The iFIX WebSpace supports running multiple sessions on the same computer; however, each session will consume a license. Each open browser window (even if logged on under the same user name) consumes a license.
- **Network Access:** The iFIX WebSpace Server communicates through a standard TCP/IP port, across a firewall. The iFIX WebSpace sessions can also communicate with the iFIX WebSpace Server through a single port across the firewall.
- **No Required iFIX Startup:** When used with iFIX in the recommended configuration (iFIX WebSpace and iFIX SCADA installed on different computers), the iFIX WebSpace Server does not need to start iFIX locally.
- **ODBC Connections:** The iFIX WebSpace sessions support ODBC connections as supported by the iFIX WebSpace Server to connect to relational database tables.
- **Other Applications:** The iFIX WebSpace session supports running other applications in the Workspace shell such as Excel, Crystal Reports, and SQL Stored procedures. This is similar to the functionality on an iClient machine.
- **Other Proficy Products:** The iFIX WebSpace sessions support displaying client controls from other Proficy products.
- **Relay Server Configuration:** The iFIX WebSpace Server supports the use of a Relay Server configuration. With this configuration, a Relay Server provides centralized control for distributing sessions across a set dependent application servers. The dependent application servers share the communication load for the iFIX WebSpace Server, and maintain the client connections.
- **Reporting:** The iFIX WebSpace Server supports reporting of client activities, such as connections, disconnections, logins, and logouts, to the iFIX Event Log.
- **SCADA Identity Protection:** When the iFIX SCADA and iFIX WebSpace Server are used together on separate machines, the iFIX WebSpace Server will not expose the details of the iFIX SCADA Server such as the IP address.
- **SCU Configuration:** The iFIX WebSpace Server supports the configuration of a single common SCU which all iFIX WebSpace sessions must use.
- **Security:** The WebSpace is secured with both iFIX or Proficy Pulse security and Windows security.
- **Session Shadowing:** This feature allows an administrator and a session owner to view and control a single session. Only administrators can connect to running iFIX WebSpace sessions, but only with permission from the session's user.

- **Session Time-out:** Through the iFIX WebSpace Administration tool, administrators can specify time limits for the number of minutes that sessions are allowed to run on an iFIX WebSpace Server.
- **SSL Security:** Provides support for Secure Socket Layer (SSL) as a method for communication between clients and servers.
- **Standard Security:** The iFIX WebSpace Server follows standard Windows security synchronized with iFIX or Proficy Pulse.
- **Supported Clients:** The iFIX WebSpace session can be run through Internet Explorer and Mozilla Firefox browsers on the Microsoft Windows operating systems. Web sessions are disconnected if you navigate away to another web page. Sessions can also be run from Windows Desktop clients.
- **Time Zone Redirection:** This option allows web sessions to run in the time zone of the client computer, regardless of the time zone that is selected on the iFIX WebSpace Server.
- **VPN Support:** The web session supports connecting to the iFIX WebSpace Server through VPN connections.

iFIX WebSpace Components

iFIX WebSpace Server

The following components are installed as part of the iFIX WebSpace Server:

Component	Description
iFIX WebSpace Application Publishing Service	The iFIX WebSpace Application Publishing Service receives client connection requests, authenticates users on the iFIX WebSpace Server, and launches iFIX WebSpace sessions.
iFIX WebSpace Relay Client Manager Service	The iFIX WebSpace Relay Client Manager Service manages the web sessions on the dependent application servers in a Relay Server configuration. For more information, refer to the Setup Overview: Relay Server and Dependent Servers section.
iFIX WebSpace Server License Manager Service	The iFIX WebSpace Server License Manager Service manages a server-based license for iFIX WebSpace Clients and iFIX/Proficy Pulse functionality. Each iFIX WebSpace session consumes a license. Each open browser window (even if logged on under the same user name) consumes a license.
iFIX WebSpace Administration Dashboard	The iFIX WebSpace Administration dashboard is a 32-bit Windows application that is installed on the iFIX WebSpace Server. Administrators use this tool to manage iFIX WebSpace Server settings.

Component	Description
iFIX Software	Although the iFIX software is installed along with the iFIX WebSpace Server, it is recommended that you install and run your SCADA Server on another, separate computer.

iFIX WebSpace Sessions

The following clients can be used for iFIX WebSpace sessions (on the client computer):

Client	Description
Microsoft Internet Explorer (iFIX Embedded Microsoft ActiveX Control)	The iFIX WebSpace ActiveX Control is available to Windows users running Internet Explorer.
Mozilla Firefox (iFIX WebSpace Plug-in)	The iFIX WebSpace Plug-in allows you to connect to an iFIX WebSpace Server using Mozilla Firefox.
Windows Desktop Client	The Windows Desktop Client allows you to view WorkSpace pictures from a desktop application using web services. It does not require Internet Explorer or Mozilla Firefox.

Unsupported Features for the iFIX WebSpace

The iFIX WebSpace product does not support use with:

- **Browsers Not Listed:** Other browsers such as Netscape, Opera, and Google Chrome. Also, 64-bit client browsers are not supported.
- **Configure Mode for the iFIX WorkSpace:** iFIX WebSpace sessions in configure mode are not supported. Only the WorkSpace run mode is supported. By default, when you log on to an iFIX WebSpace session from a supported browser, you automatically enter run mode. Several configuration tools (such as Key Macro Editor, Visual Basic Editor, Startup Profile Manager, and others) will not open in the iFIX WebSpace session.
- **Different Networks:** Running the Relay Server and Dependent Application Servers on different networks. They must all be on the same network (domain).
- **Enhanced Failover:** Enhanced Failover is not supported if the iFIX WebSpace Server is running on either of the SCADA machines configured in a redundant pair. Enhanced Failover is supported, however, if the iFIX WebSpace Server machine is separate to the SCADA pair.
- **Environment Protection:** WorkSpace environment protection settings from the web session are not supported.
- **FIX32 Nodes:** Be aware that connections to FIX32 nodes are not supported by the iFIX

WebSpace. For instance, in this case, you should not have animations or datalinks that point to FIX32 SCADA nodes in your web session pictures. This includes Workspace .GRF and View .ODF picture files.

- **iFIX Screen Saver:** The iFIX Screen Saver is not supported in iFIX WebSpace sessions. The iFIX Screen Saver settings only apply to the iFIX applications running on the iFIX WebSpace Server itself, and not to web sessions.
- **IPv6:** The iFIX WebSpace does not support IPv6. If you disable IPv6 to use iFIX WebSpace, make sure that your local HOSTS file does not contain any IPv6 references. For example, remove the ":::1 localhost" lines from the HOSTS file, and replace them a line that references the IP address and the local host name (if necessary).
- **Language Versions of the Operating System (OS) that Differ:** Are not supported for the iFIX SCADA Server and the iFIX WebSpace Server. Both OS languages must be the same for each server. For example: German OS for the iFIX SCADA Server, and German OS for the iFIX WebSpace Server.
- **Language Versions of the Products that Differ:** Are not supported for the iFIX WebSpace and iFIX/Proficy Pulse. Both product languages must be the same if you want to use these products together. For example: French iFIX, and French iFIX WebSpace Server.
- **Licensing from Older Products:** Only M4 hardware and software keys are supported for the iFIX WebSpace; other older keys are not supported. HMI Pak keys (no networking enabled) are not supported on the web client computers.
- **Modem Connections:** Connecting a client to the iFIX WebSpace Server using a modem is not supported.
- **Network Folder for Logs:** iFIX WebSpace Server logs stored directly in a network folder are not supported.
- **Proficy Change Management:** Proficy Change Management is not supported. Be sure that the "Logon on Workspace Startup" option is cleared on the Change Management tab in the User Preferences dialog box in the Workspace.
- **Right-to-left Languages:** Right-to-left languages are not supported.
- **Session and Server on the Same Computer:** Running iFIX WebSpace sessions (browser or desktop client) on the same machine where the iFIX WebSpace Server is installed is not supported.
- **Terminal Server:** A Terminal Server running on the same machine as the iFIX WebSpace Server is not supported.
- **THISNODE feature:** THISNODE, which applies to the View nodes communicating with a remote SCADA, is not supported from the web session.

Configuration Overview - iFIX WebSpace

The iFIX WebSpace Server allows you to log on and run iFIX or Proficy Pulse from a web session. However, in order to do so, you must first configure your iFIX WebSpace Server through the iFIX WebSpace Administration tool.

The following sections provide information on how to access, use, and configure the iFIX WebSpace and its options through the iFIX WebSpace Administration tool:

- Configuration Guidelines
- Setup Overview: iFIX SCADA and iFIX WebSpace Server on Separate Computers (Recommended Configuration)
- Setup Overview: iFIX SCADA and iFIX WebSpace Server on the Same Computer
- Setup Overview: Proficy Pulse and iFIX WebSpace Server (on the Same Computer)
- Setup Overview: Relay Server and Dependent Servers
- Creating Mapped Drives on the iFIX WebSpace Server
- Configuring Multiple Input Locales
- Running the iFIX WebSpace Administration
- Optimizing iFIX WebSpace Server Performance

Configuration Guidelines

Be aware of the following configuration guidelines when configuring iFIX WebSpace:

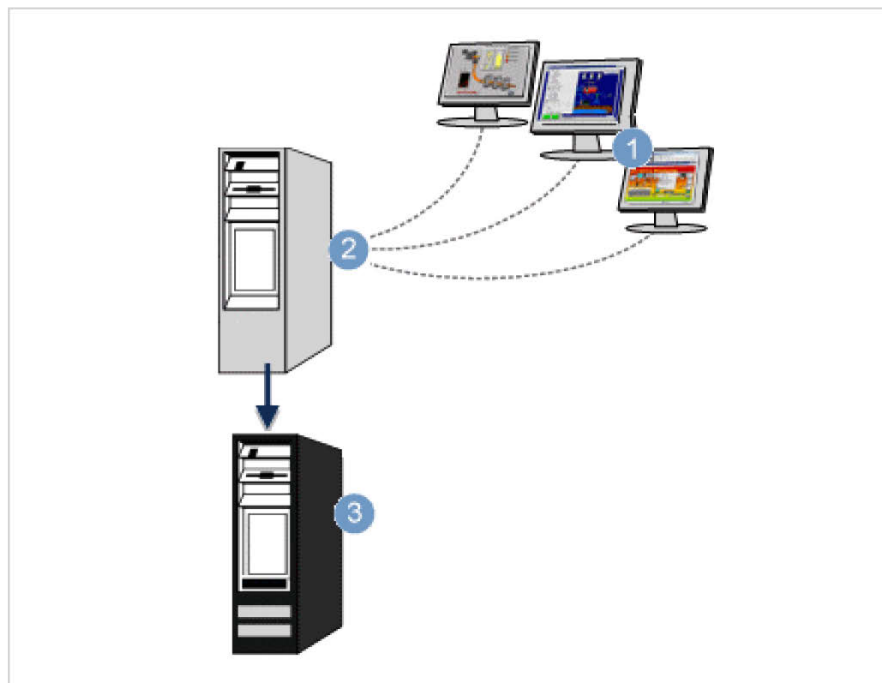
- When installed together, the iFIX SCADA Server and iFIX WebSpace Server must be the same version number.
- When used together, the iFIX SCADA Server and iFIX WebSpace Server should have the same screen resolution.
- The web server Administrator must have administrative rights on the server.
- If you want to use iFIX WebSpace with FIX Desktop, be aware that because iFIX security is enabled, logged in users must be authorized with the "FIX32 - Run a Task From View" rights in the iFIX Security Configuration application. Also, do not use embedded mode with FIX Desktop View. Use loose mode with Internet Explorer or Mozilla Firefox, or use the Microsoft Windows Desktop Client for the iFIX WebSpace.
- A web server must be available in order to set up the server for browser deployment of iFIX WebSpace, and the server must have TCP/IP as a network protocol.
- The memory and CPU requirements of an iFIX WebSpace Server are determined by the applications that are published and the number of users accessing the system. For the client web sessions, the faster the CPU and the larger the amount of memory, the better your Proficy iFIX picture load time and performance while running those pictures.
- If you are using Microsoft Internet Information Server (IIS) 6.0, and plan to allow for Mozilla Firefox web sessions, modify IIS to serve a document with an xpi extension as a registered

MIME type on that server (MIME type is application/octet-stream, Extension is .xpi). IIS 6.0 does not serve unknown MIME types. Please see KB article 326965 on the Microsoft Knowledgebase for more information: <http://support.microsoft.com/default.aspx?scid=kb;en-us;326965>.

- In a Relay Server configuration, whether installing to a relay server or dependent application server, the iFIX path must be the same on each computer in your configuration (the relay server and all dependent application servers). For instance, if using 64-bit computers, and you decide to install iFIX to the default C:\Program Files (x86)\Proficy\Proficy iFIX path for one server, the relay server and all dependent application servers should use the same path for the iFIX install.
- For other software and hardware requirements, refer to the Important Product Information (IPI) help.

Setup Overview: iFIX SCADA and iFIX WebSpace Server on Separate Computers

When the iFIX SCADA and iFIX WebSpace Server are on separate machines, there are configuration tasks on both machines that you must perform, as described in the following sections. Be aware that the iFIX WebSpace Server will not expose the details of the iFIX SCADA Server, such as the IP address. A typical iFIX SCADA and iFIX WebSpace configuration has the iFIX SCADA Server and iFIX WebSpace Server on separate computers, as shown in the following figure. This is recommended and a best practice for optimal performance.



1	iFIX WebSpace Clients iFIX WebSpace Clients run iFIX WebSpace Sessions using any of the following: • Mozilla Firefox • Microsoft Internet Explorer • iFIX WebSpace Desktop Clients
2	iFIX WebSpace Server The iFIX WebSpace Server is a Web server that allows you to access iFIX pictures (from an iFIX SCADA Server) in run mode on iFIX WebSpace Clients. The iFIX WebSpace Server maintains the client connections. It has the iFIX WebSpace installed, along with IIS or Apache HTTP Server. It's configured similar to an iFIX View node (iFIX Client), but additionally has iFIX security enabled directly on it, and has web server configuration options available in the iFIX WebSpace Administrator. It must contain the same user names as your iFIX SCADA node.
3	iFIX SCADA Server The iFIX SCADA Server sends process data to pictures for display from iFIX WebSpace Clients and iFIX view nodes (iClients). It can be running as a stand-alone server or in an Enhanced Failover configuration (with primary and secondary SCADA nodes configured). The iFIX WebSpace Server cannot run on either of the SCADA machines configured in a redundant pair. The iFIX SCADA Server and iFIX WebSpace Server should reside on the same network domain.

SCADA Server Computer Setup

NOTE: If an iFIX instance is already running on your computer before you begin to configure your iFIX WebSpace Server, make sure that you additionally check the Local Startup Definition of the WEB.SCU file when you are configuring your iFIX WebSpace Server. Be sure to confirm that the Local Node Name and Local Logical Name fields are correct, and that the Configuration File field points to the WEB.SCU file.

► To set up the iFIX SCADA Server, you need to:

1. As an Administrator, install the iFIX SCADA product. During the install, you will be prompted to:
 - Enter a Node Name, Node Type, and Connectivity Type. Select SCADA and

Networked, and enter a name other than the default name of FIX.

- Optionally, install the Proficy Historian for SCADA or Proficy Historian Client tools. You only need to do this if you plan to view historical data in your iFIX WebSpace sessions.
- Allow iFIX and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you. If you are using a different firewall, you will need to manually open the firewall for your iFIX WebSpace components.

After the install, install or update the licensing key. All install steps are described in detail in the Installing the iFIX Software section of the Getting Started guide.

2. Update the HOSTS file with the IP address and name of the iFIX SCADA Server, to ensure the highest reliability for connectivity. You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.

If the iFIX SCADA Server node name is different from the computer name that it was installed on, you also need to add this name to the HOSTS file. The HOSTS file on the iFIX WebSpace Server should be identical to the one on the iFIX SCADA Server.

An example entry in the HOSTS file is as follows: 198.212.170.4 SCADA01. If SCADA1 was the iFIX SCADA Server node name, but the computer name where the iFIX SCADA Server was installed to was AREA1, you would need to add a second line to the HOSTS file for AREA1: 198.212.170.4 AREA1. For more information on the HOSTS file, refer to the Before You Begin With TCP/IP section in the Setting Up the Environment e-book.

3. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace Server. You must have the privileges to do so.
4. If you want to enable security on the iFIX SCADA node (most likely), add these same users to the iFIX SCADA through the Security Configuration application (Edit > User Accounts). iFIX must be running to access this tool and enable security (Edit > Configuration).

NOTES:

- *It is recommended that if security is enabled, that the iFIX SCADA Server and the iFIX WebSpace Server reside on the same network. These same user account names will later need to be added to the iFIX WebSpace Server.*
 - *When adding users through the Security Configuration application in iFIX, be sure to select the Windows Security option for the user.*
 - *When assigning security privileges in iFIX, use care when allowing application features that could allow write access, such as the "Database Save/Reload" and "Runtime Visual Basic Editor" features, as well as creating pictures with Datalinks, or any other means to write values into tags. Use Security Areas and Security Groups to further restrict access. Also, use care when creating and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web sessions. For more information on iFIX Security, refer to the Configuring Security Features e-book.*
5. In the iFIX System Configuration (SCU) tool, verify that Network Configuration is set to TCP/IP (Configure > Network), and that SCADA is enabled (Configure > SCADA).

These were automatically configured during install if you selected the correct options. If these

settings are not correct, update them now.

6. Create your pictures.

iFIX WebSpace Server Computer Setup

► To set up the iFIX WebSpace Server, you need to:

1. Confirm that a supported version of Microsoft Internet Information Server (IIS) or Apache HTTP Server was installed beforehand. If it is not, install it now, as the iFIX WebSpace install requires it.
2. As an Administrator, install the iFIX WebSpace Server. During the install, you will be prompted to:
 - Enter a Node Type, and Connectivity Type. Select View and Networked. The name of the SCU will automatically be named WEB.SCU.
 - Optionally, install the Proficy Historian Client tools. You only need to do this if you plan to view historical data in your iFIX WebSpace sessions.
 - Allow iFIX and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you.

After the install, install or update the licensing key. All install steps are described in detail in the Installing the iFIX WebSpace Server Software section of the Getting Started guide.

3. Copy the HOSTS file, which was edited in the previous set of steps, from the iFIX SCADA Server to the iFIX WebSpace Server computer. The HOSTS file on the iFIX WebSpace Server should be identical to the one on the iFIX SCADA Server. You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.
4. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace Server. If you are on a domain, you may have already done this. You must have the privileges to do so.
5. In the iFIX Security Configuration program, add these same users accounts (Edit > User Accounts), and enable security (Edit > Configuration). iFIX must be running to access this tool and enable security. Unlike the SCADA Server, this step is not optional on the iFIX WebSpace Server.

NOTES:

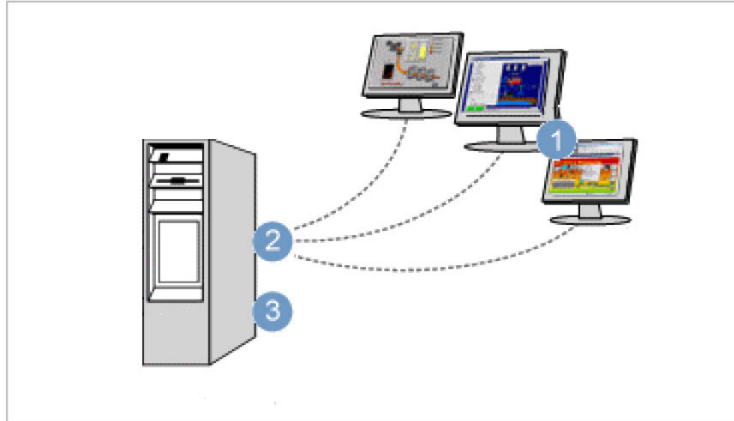
- *When adding users through the Security Configuration application in iFIX, be sure to select the Windows Security option for the user.*
 - *When assigning security privileges in iFIX, use care when allowing application features that could allow write access, such as the "Database Save/Reload" and "Runtime Visual Basic Editor" features, as well as creating pictures with Datalinks, or any other means to write values into tags. Use Security Areas and Security Groups to further restrict access. Also, use care when creating and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web sessions. For more information on iFIX Security, refer to the Configuring Security Features e-book.*
6. In the iFIX System Configuration (SCU) tool:

- Open the WEB.SCU file.
 - Verify that Network Configuration is set to TCP/IP (Configure > Network), that SCADA is disabled (Configure > SCADA), and that Workspace.exe appears in your tasks list (Configure > Tasks). By default, these settings are automatically configured during install. If these settings are not correct, update them now.
 - Specify the name of your iFIX SCADA Server in the Remote Nodes list (Configure > Network).
7. Either copy your pictures from the SCADA Server to the PIC folder on the iFIX WebSpace Server (recommended for optimum performance), or map a drive to your PIC folder on your SCADA Server. If you map a drive for pictures:
 - If you are using shared drives with Local Windows users (not on the Domain), make sure that the user is present on both the iFIX WebSpace Server machine, and the machine which contains the shared folder.
 - In the SCU on the iFIX WebSpace Server, open WEB.SCU and point the picture folder to that mapped drive letter (Configure > Paths).
 - Update the LoginScript.bat file provided in the C:\Program Files\Proficy\iFIX WebSpace Server\Programs folder with the mapped drive information, and then add the script name to the Session Startup options in the iFIX WebSpace Administrator. For more information, refer to the Creating Mapped Drives on the iFIX WebSpace Server section.
 8. Optionally, in the iFIX WebSpace Administrator, configure printer options and other session properties. For more information, refer to the Client Printing, Windows Configuration for Network and Client Printers, and Configuring Optional Web Session Properties sections.
 9. If you want to configure multiple input locales for your web sessions, add the input language and keyboard layout for that locale to the Regional Settings on the iFIX WebSpace Server. For more information, refer to the Configuring Multiple Input Locales section.

Setup Overview: iFIX SCADA and iFIX WebSpace Server on the Same Computer

When both the iFIX SCADA Server and iFIX WebSpace Server are on the same machine, there are configuration tasks that you must perform, as described in the following sections.

IMPORTANT: While running the iFIX WebSpace Server and the SCADA Server on the same machine is supported, it is strongly recommended that production SCADA Servers reside on a different machine than the iFIX WebSpace Server. You cannot run the iFIX SCADA as a service in this configuration.



1	iFIX WebSpace Clients iFIX WebSpace Clients run iFIX WebSpace Sessions using any of the following: • Mozilla Firefox • Microsoft Internet Explorer • iFIX WebSpace Desktop Clients
2	iFIX WebSpace Server (on same computer as iFIX SCADA Server) The iFIX WebSpace Server is a Web server that allows you to access iFIX pictures in run mode on iFIX WebSpace Clients. The iFIX WebSpace Server maintains the client connections. iFIX WebSpace is installed here, along with the iFIX SCADA Server, and IIS or Apache HTTP Server. iFIX security must be enabled on this node.
3	iFIX SCADA Server (on same computer as iFIX WebSpace Server) The iFIX SCADA Server sends process data to pictures for display in iFIX WebSpace Clients and iFIX view nodes (iClients).

Overview Steps

NOTE: If an iFIX instance is already running on your computer before you begin to configure your iFIX WebSpace Server, make sure that you additionally check the Local Startup Definition of the WEB.SCU file when you are configuring your iFIX WebSpace Server. Be sure to confirm that the Local Node Name and Local Logical Name fields are correct, and that the Configuration File field

points to the WEB.SCU file.

The following steps are performed on the computer where both the iFIX WebSpace Server and iFIX SCADA Server reside.

► **To set up your iFIX SCADA and iFIX WebSpace Server machine together:**

1. Confirm that a supported version of Microsoft Internet Information Server (IIS) or Apache HTTP Server was installed beforehand. If it is not, install it now, as the iFIX WebSpace install requires it.
2. As an Administrator, install iFIX as a complete install (or if Custom is selected, be sure to select the iFIX WebSpace option). During the install, you will be prompted to:
 - Enter a Node Name, Node Type, and Connectivity Type. Select SCADA and Networked, and enter a name other than the default name of iFIX.
 - Optionally, install the Proficy Historian for SCADA or Proficy Historian Client tools. You only need to do this if you plan to view historical data in your iFIX WebSpace sessions.
 - Allow iFIX and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you. If you are using a different firewall, you will need to manually open the firewall for your iFIX WebSpace components.

After the install, install or update the licensing key. All install steps are described in detail in the Installing the iFIX Software section of the Getting Started guide.

3. Update the HOSTS file with the IP address and name of the SCADA Server. You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.

If the iFIX SCADA Server node name is different from the computer name that it was installed on, you also need to add this name to the HOSTS file. An example entry in the HOSTS file is as follows: 198.212.170.4 SCADA01. If SCADA1 was the iFIX SCADA Server node name, but the computer name where the iFIX SCADA Server was installed was AREA1, you would need to add a second line to the HOSTS file for AREA1: 198.212.170.4 AREA1. For more information on the HOSTS file, refer to the Before You Begin With TCP/IP section in the Setting Up the Environment e-book.

4. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace Server. You must have the privileges to do so.
5. In the iFIX Security Configuration program, add these same users accounts (Edit > User Accounts), and enable security (Edit > Configuration). iFIX must be running to access this tool and enable security.

NOTES:

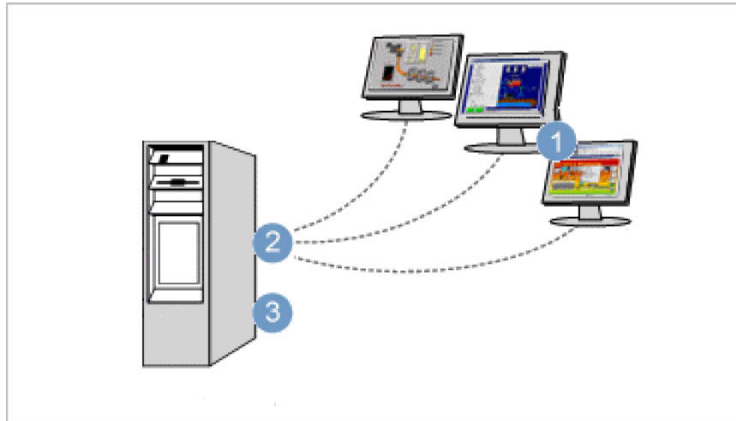
- When adding users through the Security Configuration application in iFIX, be sure to select the Windows Security option for the user.
- When assigning security privileges in iFIX, use care when allowing application features that could allow write access, such as the "Database Save/Reload" and "Runtime Visual Basic Editor" features, as well as creating pictures with Datalinks, or any other means to write values into tags. Use Security Areas and Security Groups to further restrict access. Also, use care when creating and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web

sessions. For more information on iFIX Security, refer to the *Configuring Security Features e-book*.

6. In the iFIX System Configuration (SCU) tool:
 - Open the WEB.SCU file.
 - Verify that Network Configuration is set to TCP/IP (Configure > Network), that SCADA is disabled (Configure > SCADA), and that Workspace.exe appears in your tasks list (Configure > Tasks). By default, these settings are automatically configured during install. If these settings are not correct, update them now.
 - Specify the name of your iFIX SCADA Server in the Remote Nodes list (Configure > Network).
7. Optionally, in the iFIX WebSpace Administrator, configure printer options and other session properties. For more information, refer to the Client Printing, Windows Configuration for Network and Client Printers, and Configuring Optional Web Session Properties sections.
8. If you want to configure multiple input locales for your web sessions, add the input language and keyboard layout for that locale to the Regional Settings. For more information, refer to the Configuring Multiple Input Locales section.
9. Create your pictures.

Setup Overview: Proficy Pulse and iFIX WebSpace Server (Same Computer)

When both the Proficy Pulse and iFIX WebSpace Server are on the same machine, there are configuration tasks that you must perform, as described in the following sections.



1	iFIX WebSpace Clients iFIX WebSpace Clients run iFIX WebSpace Sessions using any of the following: • Mozilla Firefox • Microsoft Internet Explorer • iFIX WebSpace Desktop Clients
2	iFIX WebSpace Server (on same computer as Proficy Pulse) The iFIX WebSpace Server is a Web server that allows you to access Proficy Pulse pictures in run mode on iFIX WebSpace Clients. The iFIX WebSpace Server maintains the client connections. iFIX WebSpace is installed here, along with Proficy Pulse, and IIS or Apache HTTP Server. Proficy Pulse security must be enabled on this node.
3	Proficy Pulse (on same computer as iFIX WebSpace Server) Proficy Pulse offers a way to pictorially view key process data, trend its performance, and compare the performance of certain components of your system at specific points in time. Proficy Pulse is not a SCADA server; it only allows you to view historical data.

Overview Steps

NOTE: If a Proficy Pulse instance is already running on your computer before you begin to configure your iFIX WebSpace Server, make sure that you additionally check the Local Startup Definition of the WEB.SCU file when you are configuring your iFIX WebSpace Server. Be sure to confirm that the Local Node Name and Local Logical Name fields are correct, and that the Configuration File field points to the WEB.SCU file.

The following steps are performed on the computer where both the iFIX WebSpace Server and Proficy Pulse reside.

► To set up your Proficy Pulse and iFIX WebSpace Server machine together:

1. Confirm that a supported version of Microsoft Internet Information Server (IIS) or Apache HTTP Server was installed beforehand. If it is not, install it now, as the iFIX WebSpace install requires it.
2. As an Administrator, install Proficy Pulse with the iFIX WebSpace option. During the install, you will be prompted to:
 - Enter a Node Name and Connectivity Type. Select Networked, and leave the default name.

- Install Proficy Historian Client Tools.
- Allow Proficy Pulse and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you. If you are using a different firewall, you will need to manually open the firewall for your iFIX WebSpace components.

After the install, install or update the licensing key. All install steps are described in detail in the "Installing the Proficy Pulse Software" section of the Proficy Pulse Getting Started guide.

3. Update the HOSTS file with the IP address and name of the node name you configured during install. You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.

If the node name is different from the computer name that it was installed on, you also need to add this name to the HOSTS file. An example entry in the HOSTS file is as follows:

198.212.170.4 PULSE1. If PULSE1 was the node name, but the computer name where the Proficy Pulse software was installed was AREA1, you would need to add a second line to the HOSTS file for AREA1: 198.212.170.4 AREA1.

4. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace Server. You must have the privileges to do so.
5. In the Proficy Pulse Security Configuration program, add these same users accounts (Edit > User Accounts), and enable security (Edit > Configuration). Proficy Pulse must be running to access this tool and enable security.

NOTES:

- *When adding users through the Security Configuration application in Proficy Pulse, be sure to select the Windows Security option for the user.*
- *When assigning security privileges in Proficy Pulse, use care when allowing application features that could allow write access, and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web sessions. For more information on iFIX Security, refer to the Configuring Security Features e-book.*

6. In the Proficy Pulse System Configuration (SCU) tool:
 - Open the WEB.SCU file.
 - Verify that Network Configuration is set to TCP/IP (Configure > Network), and that Workspace.exe appears in your tasks list (Configure > Tasks). By default, these settings are automatically configured during install. If these settings are not correct, update them now.
 - Specify the name of your Proficy Pulse node in the Remote Nodes list (Configure > Network).
7. Optionally, in the iFIX WebSpace Administrator, configure printer options and other session properties. For more information, refer to the Client Printing, Windows Configuration for Network and Client Printers, and Configuring Optional Web Session Properties sections.
8. If you want to configure multiple input locales for your web sessions, add the input language and keyboard layout for that locale to the Regional Settings. For more information, refer to the Configuring Multiple Input Locales section.
9. Create your pictures.

Setup Overview: Relay Server and Dependent Servers

The Relay Server is a Web server that provides centralized control over the iFIX WebSpace Server, providing session balancing across a number of dependent application servers. The Relay Server maintains and distributes the connections across each of the dependent application servers.

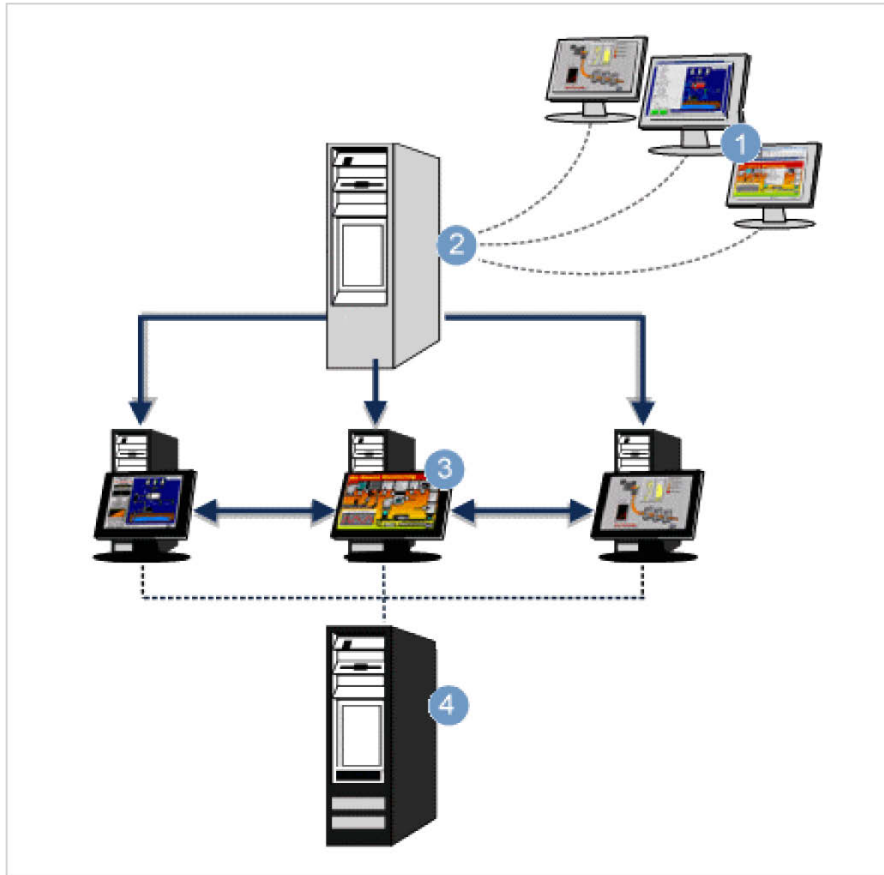
If you use a Relay Server and Dependent Application Servers in your iFIX WebSpace configuration, each server (the relay server and all dependent application servers) in your configuration needs to have the iFIX WebSpace Server installed on it. The Relay Server and Dependent Application Servers should be separate from your iFIX SCADA Server.

Each Dependent Application Server in your iFIX WebSpace configuration should be configured the same, in terms of iFIX, Proficy Historian for SCADA, and iFIX WebSpace configuration.

The Relay Server will be where you administrate most of your iFIX WebSpace Server settings. However, you still need to enter the following on each Dependent Application Server: the Relay Server name, the Maximum Number of Sessions (per host), the Minimum Available Physical Memory setting, and the Minimum Available Virtual Memory setting.

The Licensing on the Relay Server is different than the Dependent Application Servers. The Relay Server must have WebSpace Connection Count (maximum total sessions) listed in the Proficy License Viewer, under iFIX. The maximum sessions value on the Relay Server is the maximum number of sessions that can be run concurrently on all dependent application servers assigned to that Relay Server.

The following figure shows a typical Relay Server Configuration for the iFIX WebSpace. Refer to the table that follows for a description of each element illustrated in the graphic.



1

iFIX WebSpace Clients

iFIX WebSpace Clients run iFIX WebSpace Sessions using any of the following:

- Mozilla Firefox
- Microsoft Internet Explorer
- iFIX WebSpace Desktop Clients

2	iFIX WebSpace Relay Server The Relay Server is a Web server that provides centralized control over the iFIX WebSpace Server, providing client session balancing across a number of dependent application servers. The Relay Server maintains and distributes the client connections across each of the dependent application servers. The Relay Server has the iFIX WebSpace Server installed, along with IIS or Apache HTTP Server. It is also where you administrate the iFIX WebSpace Server settings. However, you still need to enter the following on each Dependent Application Server: the Relay Server name, the Maximum Number of Sessions (per host), the Minimum Available Physical Memory setting, and the Minimum Available Virtual Memory setting. The maximum sessions value on the Relay Server is the maximum number of sessions that can be run concurrently on all dependent hosts assigned to that Relay Server.
3	Dependent Application Servers A dependent application server is an iFIX WebSpace Server that is connected to a Relay Server, and handles the iFIX WebSpace sessions as directed by the Relay Server. A dependent application server also has the iFIX WebSpace Server installed, along with an IIS or Apache HTTP Server. However, unlike the Relay Server, only a few configuration items are entered in the iFIX WebSpace Administration application on each dependent application server. These items include the Relay Server name, the Maximum Number of Sessions (per host), the Minimum Available Physical Memory setting, and the Minimum Available Virtual Memory setting. Each dependent application server (installed software and settings) should be configured the same. In other words, all software, pictures, and network access must be the same on each dependent application server. IMPORTANT: • Dependent application servers must be located on the same network as their associated Relay Server. • Users are authenticated on dependent application servers, and on the Relay Server. • iFIX WebSpace Clients cannot connect directly to dependent application servers.

4	iFIX SCADA Server The iFIX SCADA Server sends process data to pictures for display from iFIX WebSpace Clients and iFIX view nodes (iClients). It can be running as a stand-alone server or in an Enhanced Failover configuration (with primary and secondary SCADA nodes configured). The iFIX WebSpace Server cannot run on either of the SCADA machines configured in a redundant pair. The iFIX SCADA Server and iFIX WebSpace Server should reside on the same network domain.
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SCADA Server Computer Setup

NOTE: If an iFIX instance is already running on your computer before you begin to configure your iFIX WebSpace Server, make sure that you additionally check the Local Startup Definition of the WEB.SCU file when you are configuring your iFIX WebSpace Server. Be sure to confirm that the Local Node Name and Local Logical Name fields are correct, and that the Configuration File field points to the WEB.SCU file.

►To set up the iFIX SCADA Server, you need to:

1. As an Administrator, install the iFIX SCADA product. During the install, you will be prompted to:
 - Enter a Node Name, Node Type, and Connectivity Type. Select SCADA and Networked, and enter a name other than the default name of FIX.
 - Optionally, install the Proficy Historian for SCADA or Proficy Historian Client tools. You only need to do this if you plan to view historical data in your iFIX WebSpace sessions.
 - Allow iFIX and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you. If you are using a different firewall, you will need to manually open the firewall for your iFIX WebSpace components.

After the install, install or update the licensing key. All install steps are described in detail in the Installing the iFIX Software section of the Getting Started guide.

2. Update the HOSTS file with the IP address and name of the iFIX SCADA Server, to ensure the highest reliability for connectivity. You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.

If the iFIX SCADA Server node name is different from the computer name that it was installed on, you also need to add this name to the HOSTS file. The HOSTS file on the iFIX WebSpace Server should be identical to the one on the iFIX SCADA Server.

An example entry in the HOSTS file is as follows: 198.212.170.4 SCADA01. If SCADA1 was the iFIX SCADA Server node name, but the computer name where the iFIX SCADA Server was installed was AREA1, you would need to add a second line to the HOSTS file for AREA1: 198.212.170.4 AREA1. For more information on the HOSTS file, refer to the Before You Begin With TCP/IP section in the Setting Up the Environment e-book.

Viewing Pictures From a Web Browser

3. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace Server. You must have the privileges to do so.
4. If you want to enable security on the iFIX SCADA node (most likely), add these same users to the iFIX SCADA through the Security Configuration application (Edit > User Accounts). iFIX must be running to access this tool and enable security (Edit > Configuration).

NOTES:

- *It is recommended that if security is enabled, that the iFIX SCADA Server and the iFIX WebSpace Server reside on the same network. These same user account names will later need to be added to the iFIX WebSpace Server.*
 - *When adding users through the Security Configuration application in iFIX, be sure to select the Windows Security option for the user.*
 - *When assigning security privileges in iFIX, use care when allowing application features that could allow write access, such as the "Database Save/Reload" and "Runtime Visual Basic Editor" features, as well as creating pictures with Datalinks, or any other means to write values into tags. Use Security Areas and Security Groups to further restrict access. Also, use care when creating and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web sessions. For more information on iFIX Security, refer to the Configuring Security Features e-book.*
5. In the iFIX System Configuration (SCU) tool, verify that Network Configuration is set to TCP/IP (Configure > Network), and that SCADA is enabled (Configure > SCADA).

These were automatically configured during install if you selected the correct options. If these settings are not correct, update them now.
 6. Create your pictures.

Relay Server Setup

► To set up the iFIX WebSpace Relay Server, you need to:

1. Confirm that a supported version of Microsoft Internet Information Server (IIS) or Apache HTTP Server was installed beforehand. If it is not, install it now, as the iFIX WebSpace install requires it.
2. As an Administrator, install the iFIX WebSpace Server. During the install, you will be prompted to:
 - Enter an install path. It is very important that you use the same install path on the Relay Server and on each Dependent Server.
 - Select View for the Node Type, and Networked for the Connectivity Type. The name of the SCU will automatically be named WEB.SCU.
 - Although you may be prompted to install Proficy Historian for SCADA, do not do so. You do NOT need to install Proficy Historian on the Relay Server.
 - Allow iFIX and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you. If you are using a different firewall, you will need to manually open the firewall for your iFIX WebSpace components.

After the install, install or update the licensing key. All install steps are described in detail in the Installing the iFIX WebSpace Server Software section of the Getting Started guide. The Relay Server license must include the iFIX WebSpace connection count when the Relay Server is in use.

3. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace. If you are on a domain, you may have already done this. You must have the privileges to do so.
4. If mapped drives are in use, update the LoginScript.bat file provided in the C:\Program Files\Proficy\iFIX WebSpace Server\Programs folder with the mapped drive information, and then add the script name to the Session Startup options in the iFIX WebSpace Administrator. For more information, refer to the Creating Mapped Drives on the iFIX WebSpace Server section.
5. Optionally, in the iFIX WebSpace Administrator, configure printer options and other session properties. For more information, refer to the Client Printing, Windows Configuration for Network and Client Printers, and Configuring Optional Web Session Properties sections.
6. Optionally, if you want to configure multiple input locales for your web sessions, add the input language and keyboard layout for that locale to the Regional Settings on the iFIX WebSpace Server. For more information, refer to the Configuring Multiple Input Locales section.
7. Optionally, configure any other settings that you want to set in the iFIX WebSpace Administration.

NOTE: All of the optional settings that you have configured up to this point apply to the Relay Server and to all Dependent Application Servers. The settings in the final, next step only apply to the Relay Server. This final step must be completed separately on each Dependent Application Server (whereas the optional settings do not).

8. In the iFIX WebSpace Administrator, configure the following options (Tools > Host Options):
 - On the Session Startup tab, in the Maximum Sessions on This Host field, enter the total number of sessions that you want to allow. The maximum sessions value on the Relay Server is the total maximum number of sessions that can be run concurrently on all dependent application servers assigned to this Relay Server.
 - On the Session Startup tab, leave the default settings for the Minimum Available Physical and Virtual Memory settings, or adjust them if necessary.
 - On the General tab, enter the name or IP address of the Relay Server. You will be prompted to restart the iFIX WebSpace Application Publishing Service.

Setup for Dependent Application Servers

Each Dependent Application Server in your iFIX WebSpace configuration should be a clone of each other in terms of iFIX, Historian, and iFIX WebSpace configuration.

► To set up an iFIX WebSpace Dependent Application Server, you need to:

1. Confirm that a supported version of Microsoft Internet Information Server (IIS) or Apache HTTP Server was installed beforehand. If it is not, install it now, as the iFIX WebSpace install requires it.
2. As an Administrator, install the iFIX WebSpace Server. During the install, you will be

prompted to:

- Enter an install path. It is very important that you use the same install path on each Dependent Server and on the Relay Server.
- Select View for the Node Type, and Networked for the Connectivity Type. The name of the SCU will automatically be named WEB.SCU.
- Optionally, install the Proficy Historian for SCADA or Proficy Historian Client tools. You only need to do this if you plan to view historical data in your iFIX WebSpace sessions.
- Allow iFIX and the WebSpace Server through the firewall, if the Windows firewall is enabled. Click Yes to continue. The install will automatically configure the rest of these settings for you. If you are using a different firewall, you will need to manually open the firewall for your iFIX WebSpace components.

After the install, install or update the licensing key. All install steps are described in detail in the Installing the iFIX WebSpace Server Software section of the Getting Started guide.

3. Copy the HOSTS file that you edited in the previous set of steps, from the iFIX SCADA Server to the Dependent Application Server computer. The HOSTS file on the Dependent Application Server should be identical to the one on the iFIX SCADA Server. You can find the HOSTS file in the C:\WINDOWS\system32\drivers\etc folder.
4. In Windows (Workgroup or Domain, preferably Domain), add the user accounts that you want to use with the iFIX WebSpace. If you are on a domain, you may have already done this. You must have the privileges to do so.
5. In the iFIX Security Configuration program, add these same users accounts (Edit > User Accounts), and enable security (Edit > Configuration). iFIX must be running to access this tool and enable security. Unlike the SCADA Server, this step is not optional on the Dependent Application Server.

NOTES:

- *When adding users through the Security Configuration application in iFIX, be sure to select the Windows Security option for the user.*
 - *When assigning security privileges in iFIX, use care when allowing application features that could allow write access, such as the "Database Save/Reload" and "Runtime Visual Basic Editor" features, as well as creating pictures with Datalinks, or any other means to write values into tags. Use Security Areas and Security Groups to further restrict access. Also, use care when creating and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web sessions. For more information on iFIX Security, refer to the Configuring Security Features e-book.*
6. In the iFIX System Configuration (SCU) tool:
 - Open the WEB.SCU file.
 - Verify that Network Configuration is set to TCP/IP (Configure > Network), that SCADA is disabled (Configure > SCADA), and that Workspace.exe appears in your tasks list (Configure > Tasks). By default, these settings are automatically configured during install. If these settings are not correct, update them now.
 - Specify the name of your iFIX SCADA Server in the Remote Nodes list (Configure > Network).
 7. Either copy your pictures from the SCADA Server to the PIC folder on the Dependent

Application Server (recommended for optimum performance), or map a drive to your PIC folder on your SCADA Server. If you map a drive for pictures:

- If you are using shared drives with Local Windows users (not on the Domain), make sure that the user is present on both the Dependent Application Server machine, and the machine which contains the shared folder.
 - In the SCU on the Dependent Application Server, open WEB.SCU and point the picture folder to that mapped drive letter (Configure > Paths).
 - Update the LoginScript.bat file provided in the C:\Program Files\Proficy\iFIX WebSpace Server\Programs folder with the mapped drive information, and then add the script name to the Session Startup options in the iFIX WebSpace Administrator. For more information, refer to the Creating Mapped Drives on the iFIX WebSpace Server section.
8. In the iFIX WebSpace Administrator, configure the following options (Tools > Host Options):
- On the Session Startup tab, in the Maximum Sessions on This Host field, enter the total number of sessions that you want to allow on this dependent server (if you add up the maximum number of sessions for each dependent application server, it should equal the maximum number of total sessions available on the Relay Server). For more on how session balancing works, refer to the Session Balancing section.
 - On the Session Startup tab, leave the default settings for the Minimum Available Physical and Virtual Memory settings, or adjust them if necessary.
 - On the General tab, enter the name or IP address of the Relay Server. You will be prompted to restart the iFIX WebSpace Application Publishing Service.

Creating Mapped Drives on the iFIX WebSpace Server

If you want mapped drives to be available for web users, you also can use a batch file on the iFIX WebSpace Server to log on to share these drives, rather than directly mapping them through Windows Explorer.

An example of a batch file, LoginScript.bat, is provided in the C:\Program Files\Proficy\Proficy iFIX\Programs folder. A batch file, such as this example, can run on a global-basis when any user logs on, or on a user-specific basis. For steps on how to add a batch file script to the logon process, either global or user-specific, refer to the Logon Scripts section. If the Administrator wants to change the location of the batch file, be aware that the new location must be accessible to all the web users.

NOTE: *User-specific project paths for iFIX WebSpace sessions are not supported. For example, you cannot use different directory paths for iFIX files, such as pictures, across multiple users. If you need to support this, it is suggested that you use iFIX with Terminal Server, instead of iFIX WebSpace.*

If all users require access to the same network share through a drive mapping, the drive mapping will generally need to be defined in a logon script, such as defined in the LoginScript.bat example.

If you are using shared folders with Local Windows users (not on the Domain), make sure that the user is present on both the iFIX WebSpace Server machine, and the machine which contains the shared folder.

Be aware that the iFIX WebSpace Server cannot back up logs to a network folder. For example, if you type a UNC path or a mapped network drive in the folder edit box, the following message is displayed: "Please specify a usable Windows folder where log files may be written."

Be aware of the Microsoft limitation on shared directories. Please see article KB5062 on the GE Intelligent Platforms Knowledgebase: <http://www.ge-ip.com/support>.

Mark all of the paths (with their folders) that will be shared for the Web Clients as read-only. This will avoid running into the Microsoft's limitation for sharing files.

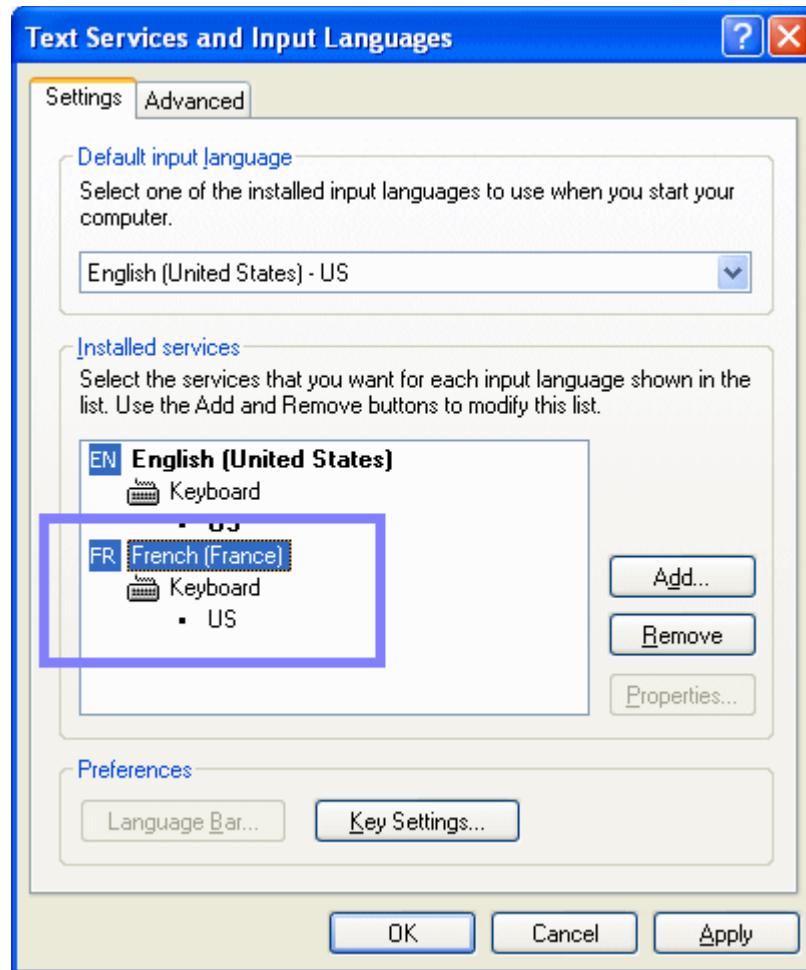
Configuring Multiple Input Locales

The iFIX WebSpace session can be configured to allow users with different input locales to log into the iFIX WebSpace Server. Although the iFIX WebSpace Server supports only the same operating system language as the iFIX SCADA Server or Proficy Pulse machine, iFIX WebSpace sessions can log in from operating systems in other languages. However, for this to work, the input language must be added to the iFIX WebSpace Server, and keyboard layout for that locale must be set.

NOTE: *Users will not be able to switch input locales when the iFIX WebSpace Sign In dialog box is displayed. The input locale for the default language of the iFIX WebSpace Server will be used instead. On Windows clients, the selected input locale of server-based applications is not displayed in the system tray of the client computer.*

Example of How to Configure

For example, say your English iFIX WebSpace Server is on an English Windows XP computer. Your iFIX WebSpace session is a browser running on a French Windows XP machine. For this scenario to work, you must add the French input language to the Regional and Language Options on the iFIX WebSpace Server. The French input language must be set to an English keyboard, however. The following figure shows an example:



► **To allow clients on non-English operating systems to connect to the iFIX WebSpace Server:**

1. Log on interactively to the iFIX WebSpace Server computer that you want to add the Input Locale with an administrator account.
2. On the Start menu, point to Settings, Control Panel, and then click Regional and Language Options. The Regional and Language Options dialog box appears.
3. Click the Languages tab.
4. In the Text services and input locales area, click Details. The Text Services and Input Languages dialog box appears.
5. In the Installed Services area, click Add. The Add Input Language dialog box appears.
6. In the Input Language field, select the language you want to allow. For example, in the above graphic, you would select Russian.
7. In the Keyboard Layout/IME field, select US. This indicates that the physical keyboard should be set to a U.S. English keyboard layout. If the physical keyboard is not US, select the appropriate keyboard layout.
8. Click OK.
9. On the Text Services and Input Languages dialog, click OK. You are returned to the Regional

and Language Options dialog box.

10. Click the Advanced tab.
11. Select the "Apply all settings to the current user account and to the default user profile" check box. A message box appears.

IMPORTANT:

- *Users will not be able to switch input locales when the Logon dialog is displayed. The input locale for the default language of the iFIX WebSpace Server will be used.*
- *For web sessions, the selected input locale of the iFIX WebSpace Server is not displayed in the system tray of the client computer.*

12. Click OK to continue.
13. Click OK to close the Regional and Language Options dialog.

Additional Keyboards and IMEs

Before clients can use keyboards and/or IMEs that are different from the server's, the files used to support them must be installed on the iFIX WebSpace Server. In most cases the layouts are copied during the installation of the operating system, but East Asian and right-to-left input languages are not. For example, the following steps guide you on how to install these keyboard layouts.

► To install keyboard layouts on a server:

1. Open the Server's Control Panel on the Server that clients will log into.
2. Double-click the Regional and Languages Options icon. A Regional and Language Options dialog box opens.
3. Select the Languages tab.
4. Click either or both of the check boxes in the Supplemental language support box. A message may open reporting the amount of disk space that will be required for the checked option.
NOTE: *You may need to provide the Windows Server DVD or the network share name to complete the file installation.*
5. Click OK. Files for the checked languages will be installed.
6. Restart your computer.

As a result of these steps, additional files will be copied to your machine. Support for the new languages will become available after the computer is rebooted.

Keyboard Layouts Behind the Scenes

Be aware of the following when working with keyboard layouts:

- If the standard mechanisms are unable to provide the session with a keyboard layout, the iFIX WebSpace Server will attempt to load a keyboard layout that matches the client's keyboard.
- The Windows Client will send the default keyboard layout (but not an IME) of the operating system, which will be used by the server to attempt to load the keyboard layout that best matches the client. This means that in most installations that do not utilize IMEs, the

administrator is not required to perform any special configurations.

- Standard language keyboards have Windows keyboard layouts that are identical to the language's locale ID. For example, the French locale ID is 040C and the standard French keyboard layout is 0000040C.
- If the keyboard is not standard there might be mismatches. The keyboard layouts of non-standard keyboards are not unique across all Windows platforms. If all clients within an installation of iFIX WebSpace use the same non-standard keyboard, the fallback layout text registry key can be used to specify it for all sessions. This will ensure that all clients will get the proper keyboard for each session.
- Client computers have different non-standard keyboards the best way to communicate this to the server is to specify the keyboard layout in the command line option or plug-in/applet tag parameter. For information on command line options, refer associated client to the section.

NOTE: When connecting to a Chinese iFIX WebSpace Server, the Sign In dialog appears from the shortcut along with the IME bar specifying Chinese as the default language. Clicking CTRL + Space bar does not toggle the languages. Users must manually click the IME bar with the mouse pointer to select English. Without manually clicking the IME bar, users will be unable to type a user name and password to log in.

Running the iFIX WebSpace Administration

The left panel of the iFIX WebSpace Administration lists all iFIX WebSpace Servers running the iFIX WebSpace Application Publishing Service. By default, the iFIX WebSpace Administration displays information for the server running on your machine. To connect to other servers and view information about them, click the server name from the list of iFIX WebSpace Servers.

If a server's icon displays a red X, the administrator does not have administrative rights on the server. If a server's icon displays a red x and is grayed out, the server is no longer running the iFIX WebSpace Application Publishing Service or it has been turned off. In either case, the administrator is unable to access that server from the iFIX WebSpace Administration application.

Click the All Servers icon in the left panel of the iFIX WebSpace Administration to view a list of all active sessions on the network. This allows you to view active sessions without connecting to individual servers. This is also helpful for locating a particular session's server.

The Status Bar is displayed at the bottom of the iFIX WebSpace Administration window. The Status Bar provides brief descriptions of menu commands when the mouse pointer is placed over that item in the menu. The Status Bar indicates the name of the iFIX WebSpace Server currently being accessed, as well as the CPU utilization and memory usage for that server, as calculated by the Windows Task Manager. The last two items on the Status Bar, Sessions and Processes, indicate the number of sessions and the number of processes running on the active iFIX WebSpace Server.

If All Servers is selected, the Sessions number will reflect all the sessions running on the network, and the Processes number will reflect all the processes on the network.

► To enable the Status bar:

1. From the iFIX WebSpace Administration, on the View menu, click Options. The Options dialog box appears.
2. Select the Status Bar check box.

-Or-

Click View and then Status Bar.

NOTES:

- For a list of iFIX WebSpace Administration shortcuts, see *Keyboard Shortcuts for the iFIX WebSpace Administration*.
- In the iFIX WebSpace Administration's dialog boxes, you can easily get Help by right-clicking an item, and then clicking *What's This?* A pop-up window will appear, displaying a brief explanation of the item. You can also get Help by clicking  on the title bar of a dialog box and then selecting an item.

Optimizing iFIX WebSpace Server Performance

To optimize the performance of the iFIX WebSpace Server, use the following tips:

Setup Recommendations

- Restrict usage of mapped drives on the iFIX WebSpace Server. The more mapped drives available, the longer it takes to log on to the iFIX WebSpace Server.
- Try to limit the number of user and global logon scripts that you configure to run on the iFIX WebSpace Server.
- If the iFIX SCADA Server and the iFIX WebSpace Server are on different computers, avoid running iFIX on the iFIX WebSpace Server machine.
- If the iFIX SCADA Server and the iFIX WebSpace Server are on different computers, copy the needed shared files from the iFIX SCADA Server onto the iFIX WebSpace Server machine. Use local copies of pictures on the iFIX WebSpace Server machine.
- For printer driver options, only select the minimum set you need (such as the Universal driver).
- If you want to view pictures with historical information, make sure that you install Proficy Historian for SCADA or the Proficy Historian Client Tools on the iFIX WebSpace Server.
- Always start the browser session in full screen so that the WorkSpace uses more of the browser client area. Be aware that in browser sessions in full screen mode (your iFIX User Preferences are set to open pictures in full screen mode), you cannot Alt+Tab to other open applications such as Word or Excel that appear behind the iFIX WebSpace application.

Picture Recommendations

- Restrict the usage of high color graphics, such as bitmaps, as they take longer to load and tax system resources depending on the size and resolution. Try to use smaller sized files and at a lower resolution. Combine multiple bitmaps into a single image.
- Disable auto-scaling on the iFIX WebSpace Server (User Preferences > Picture Preferences) if you do not want the resolution of graphics and text in your pictures to change (and be auto-sized) when you open a picture from a web session. By default, auto scaling is enabled. You may want to disable this feature if text or images appear slightly distorted from the original picture when viewed via the web session.

- Disable picture caching on the iFIX WebSpace Server (User Preferences > Picture Preferences). By default, picture caching is enabled. Although it speeds up the picture performance, it will slow down the processing on the iFIX WebSpace Server. If any memory needs to be freed up on the server, it is a good idea to disable picture caching.
- If you use Enhanced Charts, use Bitmap/Gradient Styles sparingly.
- Minimize the number of pictures that are open at the same time in your iFIX WebSpace client. Try to avoid using the OpenPic command in pictures. We have found in testing that the OpenPic command results in slower performance. The ReplacePic command is preferred.
- If using Proficy Portal controls in your pictures, and you experience display issues in the iFIX WebSpace sessions try some of these suggestions:
 - If Internet Explorer does not display these Proficy Portal controls, clear any proxy server settings. (On the Tools menu, click Internet Options. In the Internet Options dialog box, click the Connections tab and then the LAN Settings button to access proxy settings.) Next, clear the User JRE version for applet option in the Advanced Settings. (On the Tools menu, click Internet Options. In the Internet Options dialog box, click the Advanced tab and then scroll to the Java (Sun) category and locate the User JRE version for applet option.)
 - If the web browser's security levels are set to allow only trusted sites, make sure you add the Proficy Portal Server to the list of trusted sites.
- Refresh rates on pictures can also impact browser performance. In the iFIX WebSpace, by default, datalinks, animations, and charts (Enhanced and Standard) in pictures will refresh at a rate no faster than once per second. For example, in the Expression Builder, if you enter .1 or .5 as the refresh rate for your data source, it will NOT be adhered to. The historical update rate for both Enhanced and Standard charts will also be adjusted accordingly. For the alarm blink rate, alarm fetch rate, and alarm data refresh rate in the Alarm Summary objects, the iFIX WebSpace will refresh the data no faster than every 5 seconds. For instance, even if you set the refresh rates in the Alarm Summary object to be faster, the iFIX WebSpace will not allow a rate faster than every 5 seconds.

You can adjust these default settings without opening any pictures. Open the FixUserPreferences.ini file on the iFIX WebSpace Server. (By default, for iFIX, this file is located in the C:\Program Files\Proficy\Proficy iFIX\LOCAL folder. For Proficy Pulse, this file is located in this folder: C:\Program Files\Proficy\Proficy Pulse\LOCAL folder.) Scroll to the following section and enter larger numbers:

[WebSpacePreferences]

DataRefreshThrottleInSecs=1

AlarmSummaryThrottleInSecs=5

A larger number for either of these settings (a slower refresh rate) is intended to improve the iFIX WebSpace performance when opening pictures and may also improve mouse click response time.

NOTE: If you have slower refresh rates entered in the objects in your pictures, the iFIX WebSpace will not reset the refresh rate settings to the lower default values of 1 and 5 when you open a picture.

The acceptable values for the *DataRefreshThrottleInSecs* are: 1, 2, 5, 10, 15, 30, and 60. Any other number will be reset to the lowest value it is closest to. For example, a 3 will become a 2, a 4 will become a 2, a 13 will become a 10, a 35 will become a 30, a 59 will become a 30, and a 65 will become a 60.

An acceptable value for *AlarmSummaryThrottleInSecs* is any whole number less than or equal to 300. If you enter a number greater than 300, it will be set to 300.

IMPORTANT: Use caution when changing these .ini settings, since user data displayed in the iFIX WebSpace is refreshed at these rates.

Improving Picture Open Time

- If you do experience performance issues (for instance, a picture takes a long time to open, or the CPU on the iFIX WebSpace Server or Client starts to spike), try opening the picture on a View node (iClient). If you notice similar performance issues on the View node, consider modifying your pictures. For instance, you may want to set the picture refresh rates to a slower rate than the default. On a high-end server, the login time for the iFIX WebSpace session is approximately 1.5 times that of a Windows View Node. For example, if your Windows View Node takes 30 seconds to start iFIX and open the picture, then the web browser will take approximately 45 seconds.
- If you experience high CPU usage on the iFIX WebSpace Server, and you are using Alarm Summary objects in your pictures, try to reduce the number of rows displayed in the Alarm Summary object. Also, when viewing pictures from the web sessions, try closing any unnecessary pictures that display Alarm Summary objects. When multiple web sessions display pictures with Alarm Summary objects that include multiple rows, the CPU usage on the iFIX WebSpace Server may rise. In this scenario, if you reduce the number of rows and open pictures, the CPU usage on the iFIX WebSpace Server should improve.
- If login time (the time from when you enter the iFIX WebSpace URL to the display of the iFIX or Proficy Pulse login dialog box) increases with each successive client browser connection, this may indicate that the CPU usage on the server may be too high and there may be a hardware limitation on the web server. Consider using a higher-end server.

Network Considerations

- The speed of the computer running the iFIX WebSpace session from a browser can impact performance. Faster client machines typically load iFIX pictures much quicker, and have improved performance while those pictures are open. For instance, in testing, a slow client with 512 MB RAM and 1.5 GHz processor had picture load times approximately 1.5 times longer than a faster client with 1 GB RAM and 3.0 GHz processor.
- Network speeds and connection types also impact performance for an iFIX WebSpace session. A 100BaseT network adapter, which is recommended, allows the iFIX WebSpace session to utilize optimum speed for its performance. Companies using VPN connections for iFIX WebSpace sessions may experience a decrease in performance.
- Network bandwidth and traffic appears to have a significant impact on system performance. Higher traffic networks experience degraded load times and picture performance.
- Network capability in a Relay Server configuration is especially important, as it directly impacts system performance. A Relay Server will perform better on a network with greater speed and bandwidth.

Administering the iFIX WebSpace Server

The iFIX WebSpace Administration tool allows you to administer, monitor, and control client access to the iFIX WebSpace Server, and to add or remove iFIX WebSpace sessions. It displays a list of the users logged on to an iFIX WebSpace Server, along with the iFIX WebSpace sessions the users are running, and the time the session was started. The iFIX WebSpace Administration lets you terminate sessions and end processes taking place on the server.

Administrators use the iFIX WebSpace Server to monitor processes, sessions, and server activity. The following sections provide information on functions the administrator may want to perform or know more about:

- Administration Window Overview
- Host Options Dialog Box
- User Account Settings
- Session Startup
- Session Shutdown
- Security Options
- Password Change
- Monitoring Server Activity
- Log Files

Administration Window Overview

The iFIX WebSpace Administration Window displays information about your iFIX WebSpace Server. This information includes:

- Server activity and processes taking place on the server.
- A list of the users logged onto a selected iFIX WebSpace Server.
- Applications users are running.
- Times that applications were started.

This information enables you to perform several administrative tasks, such as:

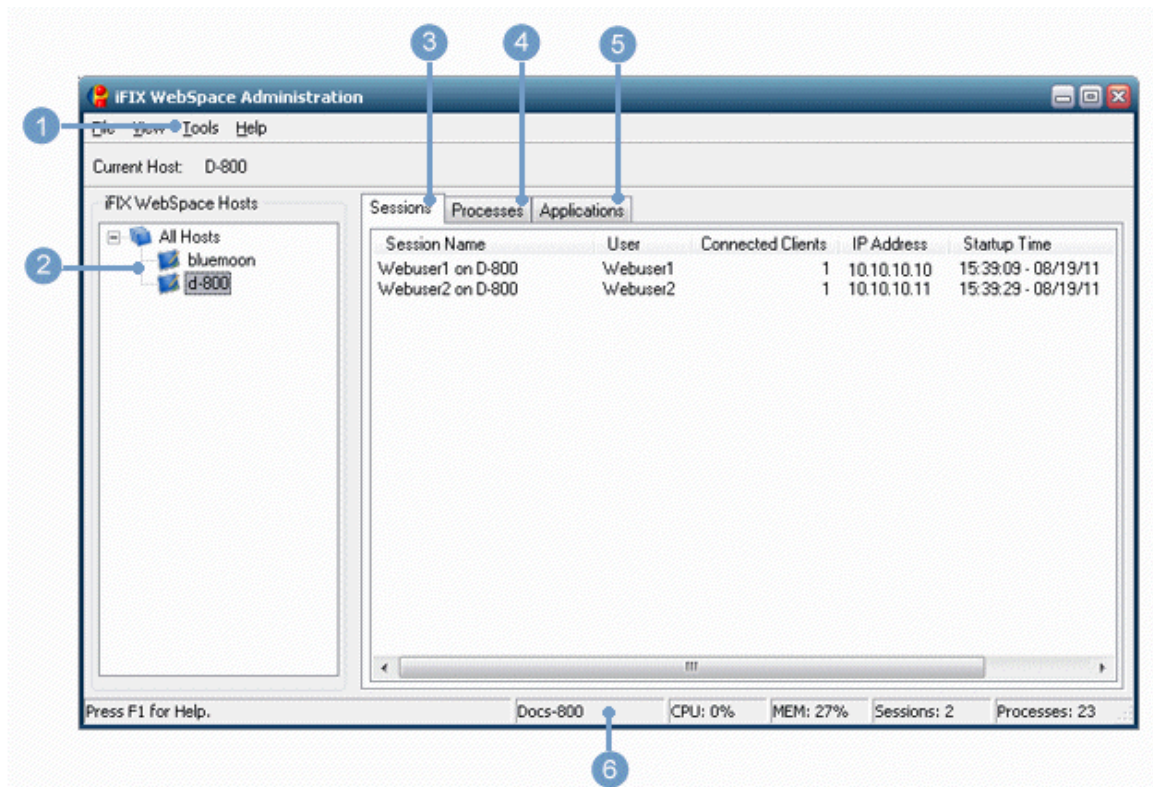
- Determine which applications are no longer being used and whether additional servers are required.
- Monitor clients.
- Administer sessions and processes including:
 - Terminate user sessions.
 - End processes running on the server.

Viewing Pictures From a Web Browser

- Control client access to the iFIX WebSpace Server.

Window Overview

The following figure shows an example of the iFIX WebSpace Administration window.



The following table outlines each of the areas in the iFIX WebSpace Administration window.

Screen Area	Description
1	The Tools Menu The Tools menu is where you access the Host Options dialog box to configure your iFIX WebSpace Server.

Screen Area	Description
2	The Tree View Pane The tree view portion of this window displays a list of iFIX WebSpace Servers on the network and their status. For a list of icons and descriptions, refer to the Tree View Icons section in this topic. IMPORTANT: <i>You must belong to the Administrators group on each Thin Client Server in order to access that server from the iFIX WebSpace Administration window. Without administrative rights on a server, you will be unable to add applications and terminate processes, and so on.</i> If a red X displays on the icon, the administrator does not have administrative rights on the server. If the server's icon has a red X and is grayed out, the server is no longer running the Application Publishing Service or it has been turned off. A dependent server is orphaned when its relay server has gone down.
3	The Sessions Tab Sessions can be connected, terminated or refreshed through this tab on the iFIX WebSpace Administration window. Information displayed about each session includes: a unique identifier for the session name, the network user name for that session, number of clients connected to a session (2 or higher indicates the session is being shadowed), the IP address of the client computer from which the user is accessing the server, the date and time the user started the application, and the number of applications the user is accessing.
4	The Processes Tab Process information can be viewed, refreshed, or terminated from this tab. NOTE: <i>Ending a process without giving users a chance to close their application can result in the loss of data.</i>
5	The Applications Tab You can assign command line parameters for the iFIX Launch.exe application, or change the icon that displays for the Launch.exe application from this tab.

Screen Area	Description
6	The Status Bar The status bar provides the following for a selected iFIX WebSpace Server currently being accessed: Name. CPU utilization. Memory usage. Number of running sessions. Number of running processes. NOTE: If All Hosts is selected, the Sessions number will reflect all the sessions running on the network, and the processes number will reflect all the processes on the network.

Tree View Icons

The following table describes the icons that can appear in tree view area of the iFIX WebSpace Administrator.

Icon	Description	Status
	iFIX WebSpace Server (Not part of a Relay Server Configuration)	Available
	Dependent Application Server (in a Relay Server Configuration)	Orphaned
	Relay Server	Unavailable
	Relay Server	Available
	Dependent Application Server (in a Relay Server Configuration)	Available
	Dependent Application Server (in a Relay Server Configuration)	Unavailable

Accessing the iFIX WebSpace Administration

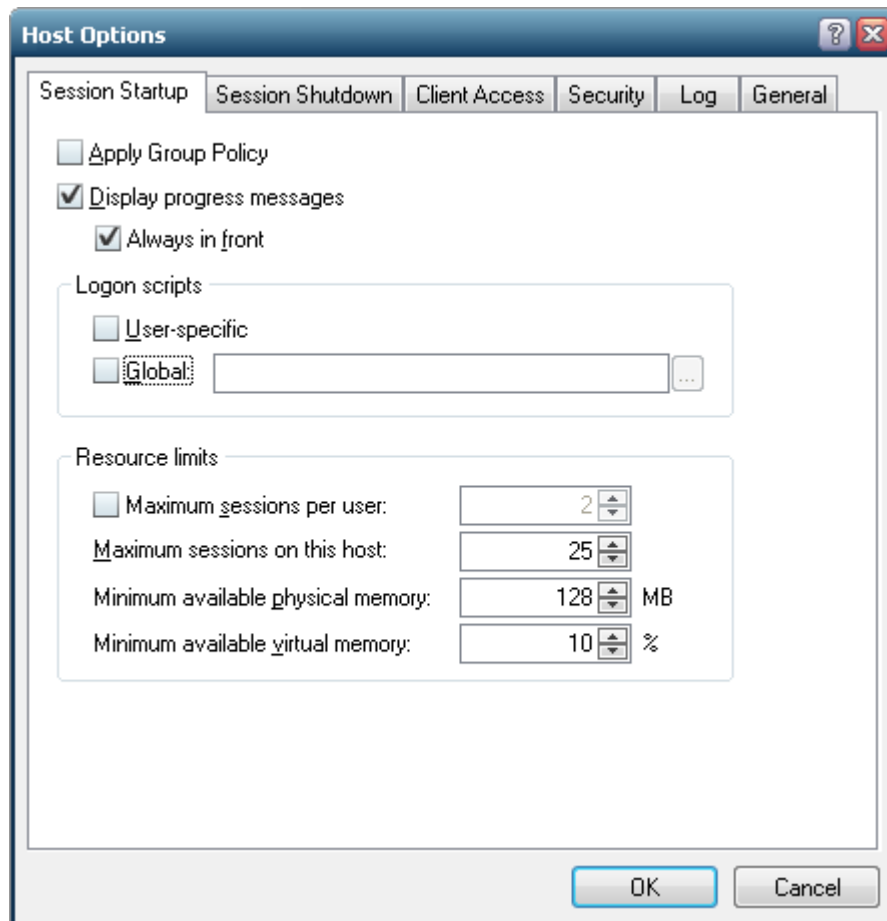
During the iFIX WebSpace installation, a shortcut to the iFIX WebSpace Administration is created by default. You can access the iFIX WebSpace Administration from the desktop shortcut or from the Start menu.

► To access the iFIX WebSpace Administration:

- On the Start menu, point to Programs, iFIX WebSpace, Tools, and then click iFIX WebSpace Administration.
- Or-
- On the desktop, double-click the iFIX WebSpace Administration icon.

Host Options Dialog Box

The Host Options dialog box is accessed from the Tools menu, from the Options command. It contains information for configuring your iFIX WebSpace Server. The Host Options dialog box with example settings is shown in the following figure.



The Host Options dialog box displays the following tabs:

Session Startup

The Session Startup tab displays the following items:

Item	Description
Apply Group Policy	Select to apply Group Policy to a user's session at startup. Using Group Policy and its extensions, administrators can: Manage registry-based policy. Assign scripts. Redirect folders. Manage applications Specify security options.
Display Progress Messages	Select to allow various progress messages to be shown to users during session startup, after a user is authenticated. Displayed messages include: A user's personal settings are being loaded. Group Policy is being applied. Network drives are being connected. Logon scripts are being run.
Always in Front	Select so that session startup progress messages will be displayed in front of all other windows. Clear to permit other windows to be placed in front of the progress messages.
Logon Scripts: User-specific	Enable to permit a user-specific executable file to be run during the individual logon process. <i>IMPORTANT:</i> Authenticated users must have read and execute access to the logon script files. User-specific logon scripts are specified using the functionality provided by the operating system.
Logon Scripts: Global	Specifies the path of an executable file to be run for all users that log on to the server. <i>IMPORTANT:</i> Authenticated users must have read and execute access to the logon script files.
Maximum Sessions Per User	Allows you to specify the maximum number of sessions that a user may run concurrently. Clear the check box next to this field to allow each user to have an unlimited number of sessions. The default is to have an unlimited number of user sessions.

Item	Description
Maximum Sessions on this Host	Specifies the maximum number of sessions allowed on this server. When the entered maximum sessions are reached on the iFIX WebSpace Server, additional sessions are denied access. For example, if the maximum number of sessions is 25, the user who initiates the 26th session will be prevented from logging on. The default is 25 sessions per iFIX WebSpace Server. IMPORTANT: In a relay server setting, iFIX WebSpace checks the maximum sessions setting on the relay server AND its dependent application servers. The value entered for the Maximum sessions on the relay server is the maximum number of sessions that can be run concurrently on all dependent application servers assigned to that relay server.
Minimum Available Physical Memory	Specifies the minimum number of megabytes of physical memory that must be available for a session to start. When the available physical memory falls below the entered number (MB), additional users cannot log on. The default is 128 MB.
Minimum Available Virtual Memory	Specifies the minimum percentage of virtual memory that must be available for a session to start. When the available virtual memory falls below the entered percentage value, additional users cannot log on. The default is 10 percent (%).

Session Shutdown

The Session Shutdown tab displays the following items:

Item	Description
Timeouts: Session	Lets you set a limit on how many minutes a session may run on a server. By default, this option is disabled.
Timeouts: Idle	Lets you specify a limit to the number of minutes of idle time allowed on a server, since the last mouse or keyboard input event was received in a session. By default, this option is disabled.
Idle Action	Select Disconnect to disconnect users when the idle limit has been reached, or select Log to log off users when the idle limit has been reached.

Item	Description
Warning Period	Lets you specify the number of minutes before a session or idle limit is reached when users are warned that they are about to be disconnected or logged off. This option may be selected if either Session or Idle is enabled. However, the Warning Period must be less than the session limit and idle limit settings. Values less than or equal to zero provide no warning period.
Grace Period	Lets you specify the number of minutes necessary to provide for a graceful shutdown of iFIX and all of its processes when a session is being closed. The Grace Period defaults to a value of 1 minute and should ONLY be changed at the instruction of iFIX Customer Support personnel.
Disconnected Sessions Terminate: Immediately	Select so that sessions will terminate as soon as their clients disconnect.
Disconnected Sessions Terminate: After	Lets you specify how many minutes sessions should remain running after their clients disconnect. For example, if the network connection is lost or if users unintentionally disconnect from the iFIX WebSpace, their session state is preserved for the length of time entered here.

Client Access

The Client Access tab displays the following items:

Item	Description
Clipboard	Enables client clipboard support. Any clipboard data from the browser session is available only within the Workspace application. In order to copy the contents to other applications on the local disk of the client machine you must create a shell script within an object inside your Workspace picture that launches Notepad.exe, on the iFIX WebSpace Server. After you do this, you can use this object to launch Notepad in run mode from the web session. Paste the contents into Notepad, and save this file to the local disk of web session computer.

Item	Description
Sound	Enables client sound support. The iFIX WebSpace supports sound capability for any application that uses PlaySound, sndPlaySound, or waveOut. It is not required that sound cards and/or speakers be installed on iFIX WebSpace Servers. The client machine, however, does require a sound card and speakers. Audio support is disabled by default on the iFIX WebSpace sessions. IMPORTANT: Be aware that client sound capability requires the loading of iFIX WebSpace libraries into session processes. This can affect the startup of a process, make some processes incompatible with iFIX WebSpace, or have fatal consequences during suspend/resume operations. Use caution when enabling this setting.
Drives	Enables client file access.
Hide	Lets you specify the drives letter(s) of client drives you would like to hide. For example: A, B, G-J. Hidden drives are inaccessible to the user through the iFIX WebSpace session.
Assign consecutive letters starting at...	Lets you remap client drives by listing client drives sequentially starting at a given drive letter.
Increment By...	Lets you remap client drives by incrementing client drive letters by a fixed value.

Item	Description
Universal Printer Driver	Enables the use of the Universal Printer Driver that can print to any client printer. When only the Universal Printer Driver is enabled, only the Universal Printer Driver will be used as a printer driver. No native drivers will be used. This is the default setting. The Universal Printer Driver uses a standard printing properties dialog box and may not offer some of the more advanced printing options other drivers do. The Universal Printer Driver can be used when the native driver is not available. When neither the Universal Printer Driver nor Windows Printer Drivers is enabled, no printers will be configured and client printing is disabled. NOTE: A printer named <i>Preview PDF</i> is configured in each session when the Universal Printer Driver is enabled. Documents printed to this printer are automatically converted to a .pdf file and displayed on the client computer. Users can save, print, or email the document at their discretion. A PDF reader, such as Adobe Reader, is required on the client computer in order to use the Universal Printer Driver's PDF conversion feature.
Windows Printer Driver	Enables printers to be configured using already installed native drivers. When only the Windows Printer Drivers option is enabled, only native printer drivers that are installed on the iFIX WebSpace Server will be used. If a printer's native driver is not installed, that printer will not be configured. To allow the iFIX WebSpace to automatically install native printer drivers that ship with Microsoft Windows click the Automatically install drivers. The Windows Printer Driver option is preferred when configuring proxy printers, if they are available and if settings allow them to be used. When both the Universal Printer Driver and the Windows Printer Drivers are enabled, and a printer's native driver is installed on the iFIX WebSpace Server, the printer's native driver will be used to configure the printer. If it is not installed on the iFIX WebSpace Server, the printer is configured to use the Universal Printer Driver. When Windows Printer Drivers and Automatically install drivers are enabled, only native printer drivers that are installed on the iFIX WebSpace Server or those that are included with Windows will be used. If a printer's native driver is not installed and it is not included with Windows, that printer will not be configured. When neither the Windows Printer Drivers nor Universal Printer Driver is enabled, no printers will be configured and client printing is disabled.

Item	Description
Automatically Install Drivers	Allows the iFIX WebSpace to automatically install native printer drivers that ship with Microsoft Windows. The Automatically Install Drivers option is only available when the Windows Printer Driver option is selected.
Automatically Update Clients	Lets you automatically update an iFIX WebSpace Desktop Client when a user connects to an iFIX WebSpace Server that is running a newer version. NOTE: The Automatically Update Clients option on the Client Access tab of the iFIX WebSpace Administration tool is only available for the Windows Desktop Client. It does not apply to other clients such as Mozilla Firefox and Internet Explorer.
Serial and Parallel Ports	Allows applications running on the host to access client machines' serial and parallel ports. Serial and parallel ports are disabled by default. Be aware that Client Serial and Parallel Ports requires the loading of iFIX WebSpace libraries into session processes. This can affect the startup of a process, make some processes incompatible with iFIX WebSpace, or have fatal consequences during suspend/resume operations. As such, when Serial and Parallel Ports is enabled, a message box opens and asks for confirmation.

Security

The Security tab displays the following items:

Item	Description
Transport	Lets you select Transmission Control Protocol (TCP) or Secure Socket Layer (SSL) as a method for communication between clients and iFIX WebSpace Servers. When selecting the SSL transport, an SSL Certificate file must be specified.
Port	Lets you change the port on which this iFIX WebSpace Server is listening.

Item	Description
Encryption	Lets you specify the type of encryption of the data that is transmitted between the client and the server. Encryption includes: The client's user name and password, which are supplied during logon Any application data submitted by the client or returned by the server. iFIX WebSpace uses 56-bit DES encryption. After you have enabled encryption, all succeeding iFIX WebSpace sessions will be encrypted. Sessions that are active when the feature is enabled will not be encrypted. A user must log off, then onto the iFIX WebSpace Server for his or her session to be encrypted.
SSL Certificate	Lets you specify the full path of the SSL Certificate that is required to use SSL transport. You can obtain a certificate from a trusted Certificate Authority (CA) such as Verisign or Thawte, or you can create your own certificate authority and then sign your server certificates from this authority. When the SSL transport is selected, all connections to that iFIX WebSpace Server use the SSL transport and the selected encryption algorithm, including connections from iFIX WebSpace sessions. Consult the documentation from the CA of your choice using the following information as a guide to obtain a server certificate from a CA that is trusted by the client operating system. In order for a certificate to work in iFIX WebSpace: A private key is required. The certificate must be in PEM format. Consult Microsoft documentation for details.
Notify Users When Connections are Secure	Enable to notify users with a message when connections between client and server are secure. This option is only available when the SSL transport mode is selected.

Item	Description
Cache Passwords on Client	Allows users who are not members of the server's domain to log on without having to enter their user name and password every time they connect to the server. Passwords are encrypted on the server, transmitted over the network, and stored on client computers in user-private directories. Users are added to the server's INTERACTIVE group and have the same access rights they would have if they logged on to the server at its console. NOTE: This option is only available for the first logon dialog box that displays when connecting to the iFIX WebSpace session – you will still be prompted for an iFIX logon name and password when opening a new iFIX WebSpace session. The cached password is saved in the following directory: C:\Documents and Settings\<user name> folder\Application Data\Proficy\iFIX WebSpace\<server name>.dat

Log

The Log tab displays the following items:

Item	Description
Folder	Specifies a folder to which log files will be written and in which there are subfolders where backed up logs will be stored. The default location is: C:\Program Files\Proficy\iFIX WebSpace\Log. iFIX WebSpace Server does not support storing logs directly in a network folder.
Output Level	Specifies the level of information written to the log file, with numbers 1 to 6 capturing ever greater detail, and 0 capturing no output. The default level is 2.
Maintenance	Lets you select which action will be performed on log files that have reached the specified age or size. The action applies to the current log file as well as to those which are inactive.
Files More than ... days old	Specifies how many days old log files can become before being deleted or moved to the Backup subdirectory of the Log folder. The setting applies to the current log file as well as to those which are inactive.

Item	Description
or... MBs in size	Specifies at what size, in megabytes, log files are to be deleted or moved to the Backup subdirectory of the Log folder. The setting applies to the current log file as well as to those which are inactive.

General

The General tab displays the following items:

Item	Description
Relay Server	Lets you specify the name or IP address of an iFIX WebSpace Server that manages the communication between iFIX WebSpace Clients and a set of dependent application servers.
Use Client Time Zone	Select this option to run iFIX WebSpace sessions in the time zone of the client computer.

User Account Settings

To access iFIX WebSpace sessions on an iFIX WebSpace Server, client users must log on to the server machine. When users start an iFIX WebSpace session, they are prompted for their user name, password, and the name of the server they wish to access. This information is encrypted and passed to the iFIX WebSpace Application Publishing Service running on the iFIX WebSpace Server. The iFIX WebSpace Application Publishing Service then performs the logon operation using standard multi-user features of Windows.

When a user logs on to a server and a domain is not specified, the iFIX WebSpace Server first tries to authenticate the account on the local machine, then the machine's domain, and finally the trusted domains. Users can override this default behavior and specify a domain by typing the domain name followed by a backslash and their network user name in the user name field of the Logon dialog box. For example: NORTH\johng.

When a local user name on the iFIX WebSpace Server is the same user name as a domain account, each with a different password, iFIX WebSpace treats them as two separate accounts.

After a user is logged on, the iFIX WebSpace relies on the server's operating system to provide the security necessary to run applications safely in a multi-user environment. Applications run in the security context of the client user to ensure private sessions. Access to all machines and network resources is governed by the operating system and the rights that have been granted to individual user's sessions.

Users must be able to log on interactively (locally) on the iFIX WebSpace Server. Assign local logon rights to users in Local Security Policy, Domain Security Policy, and Domain Controller Security Policy.

For more detailed information on administration of user accounts, please consult Windows Help, accessible from the Start menu.

Setting File Permissions

As the system administrator, you may need to restrict user access to certain files and resources. Keep in mind that there are multiple users accessing the server.

Particularly in a Relay Server environment, it is recommended to write-protect your system and application folders so that users are unable to save files on an iFIX WebSpace Server. Otherwise, the next time a user logs on to iFIX WebSpace and is routed to a different server, the files and folders will be inaccessible.

You must use Windows Explorer to set the permissions for files on the server. By setting file permissions, you can restrict user access to applications, printers, and folders. Please note that file permissions can only be set on drives formatted with the Windows NT file system (NTFS). If you are using the FAT file system, you will be unable to set permissions for specific files or restrict access to applications.

Once an application's permissions have been set, you can assign specific parameters for the application with the iFIX WebSpace Administration. For more information, see the following:

NOTE: While in Windows Explorer, open the Help for more information on setting file permissions.

Setting up a Network Printer

If the printer on the iFIX WebSpace Server is a network printer, and you want to allow printing on the web sessions to this printer, you must add the network printer to the iFIX Web Server. As the administrator, you can set up network printers for use by iFIX WebSpace sessions. You must first create a port on the iFIX WebSpace Server that connects directly to the server and then install the printer locally. This provides direct access to the printer.

Network printers are set up using the Windows Add Printer Wizard.

NOTES:

- *If a printer is physically connected to the iFIX WebSpace Server, and you want to allow printing from the web sessions to this printer, no additional configuration changes need to be made on the iFIX WebSpace Server or web session.*
- *If you want to allow printing in the web sessions from client printers, refer to the Client Printing section for information on how to configure.*

► To add a printer to the iFIX WebSpace Server:

1. On the Start menu, point to Settings, and then click Printers and Faxes.
2. Double-click the Add Printer icon.
3. Select local printer, then click Next.
4. Click Create a new port and select Local Port or Standard TCP/IP Port as the type. Click Next.
5. In the Port Name dialog, type the UNC path to the printer or the printer's IP address. For

example: \\PRINTSERVER\\LASERPRINTER.

6. Select the printer manufacturer on the left and the printer model on the right or click Have Disk.
7. Follow the directions provided by the Add Printer Wizard to install the proper printer driver.

Session Startup

For information on starting up iFIX WebSpace sessions, refer to the following sections:

- Applying Group Policy
- Displaying Progress Messages
- Logon Scripts
- Setting Resource Limits

Applying Group Policy

The Microsoft Group Policy is supported. Using Group Policy and its extensions, administrators can manage registry-based policy, assign scripts, redirect folders, and specify security options. For more information regarding this feature, go to:

<http://www.microsoft.com/windowsserver2003/techinfo/overview/gpintro.mspx>.

► To apply Group Policy on an iFIX WebSpace Server:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. On the Session Startup tab, select the Apply Group Policy check box.
4. Click OK.

NOTE: It may take users longer to log on to the iFIX WebSpace Server when the Group Policy is enabled.

Displaying Progress Messages

After a user is authenticated, a message box that reports session startup progress can be displayed to users. When enabled, these messages inform users of the following:

- When their personal setting are being loaded.
- When Group Policy is being applied.
- When network drives are being connected.
- When logon scripts are being run.

► To display session startup progress messages to users:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. Select the Display progress messages check box.
5. To ensure that messages are displayed in front of all other windows, select Always in front check box.

NOTE: *If a logon script has the ability to display user interface to the user, the Always in front option should not be enabled. Otherwise, the logon script's user interface may be partially obscured by the progress message.*

6. Click OK.

Logon Scripts

Logon scripts allow administrators to configure the operating environment for iFIX WebSpace users. Scripts may perform an arbitrary set of tasks such as defining user-specific environment variables and drive letter mappings.

The iFIX WebSpace supports two types of logon scripts: global scripts that execute for all users that log on to the server, and user-specific scripts that execute for individual users. Before loading the user's profile, the iFIX WebSpace checks to see if a script of either (or both) type has been specified. If so, the iFIX WebSpace runs the script(s) within the user's security context each time the user is authenticated.

NOTE: *User-specific project paths for iFIX WebSpace sessions are not supported. For example, you cannot use different directory paths for iFIX files, such as pictures, across multiple users. If you need to support this, it is suggested that you use iFIX with Terminal Server, instead of iFIX WebSpace.*

User-specific logon scripts are specified using the functionality provided by the operating system. For example, the logon script for local users on a Windows 2000 server is specified as follows:

1. Right-click My Computer and click Manage.
2. Navigate to the \System Tools\Local Users and Groups\Users folder.
3. Select a user and click Properties.
4. Click Profiles.
5. In the Logon script box, type the file name of the user's logon script.

If the value entered in the Logon script box specifies a file name and extension only, iFIX WebSpace searches for the file in the following directories, in the following order:

1. If the user's account is a domain account:
 - a. \\pdcname\NETLOGON; for instance, the NETLOGON share of the primary domain controller.
 - b. \\pdcname\SYSVOL\domainname; for instance, the domain subdirectory of the primary domain controller's SYSVOL share.

Viewing Pictures From a Web Browser

2. If the user's account is a local account:
 - a. systemroot\System32\Repl\Import\Scripts
 - b. systemroot\sysvol\sysvol\domainname

If the logon script is stored in a subdirectory of one of the above directories, precede the file name with the relative path of that subdirectory. For example: Admins\JohnG.bat.

Administrators specify global and user-specific logon scripts through the iFIX WebSpace Administration's Session Startup dialog.

► To run user-specific logon scripts:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. Select the User-specific check box.
5. Click OK.

► To run a global logon script:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. Select the Global check box.
5. In the field next to the check box, specify the path of the global script file.

For example, you may want to add the LoginScript.bat, provided in the C:\Program Files\Proficy\iFIX WebSpace Server\Programs folder as an example for configuring mapped drives, as a global script.

6. Click OK.

NOTE: Authenticated users must have read and execute access to the logon script files. An example of a logon script is described in the *Creating Mapped Drives on the iFIX WebSpace Server* section. The *LoginScript.bat* example described in this section can be applied on a global or user-specific basis.

Setting Resource Limits

iFIX WebSpace allows administrators to prevent users from starting new sessions when certain resource limits are exceeded on an iFIX WebSpace Server. These limits help administrators prevent servers from becoming loaded to the point where users experience performance problems and random resource allocation failures. You can also limit the total number of session connections to the iFIX WebSpace Server. And, you can prevent users from logging on when the available physical memory or virtual memory on a server falls below a given value. By default,

These resource limits are especially important in a Relay Server configuration. For each dependent server in a Relay Server configuration, you must configure these limits.

► **To limit the number of sessions per user:**

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. Select Maximum sessions per user check box.
5. In the field next to the check box, enter the maximum number of sessions allowed per user on this server.
6. Click OK.

► **To limit the number of sessions per iFIX WebSpace Server:**

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. In the Maximum sessions per host field, enter the total maximum number of sessions allowed for this server.
5. Click OK.

► **To specify the minimum available physical memory necessary for this server to start a session:**

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. In the Minimum Available Physical Memory field, enter the minimum number of free megabytes (MBs) necessary for sessions to be allowed on this server.
5. Click OK.

► **To specify the minimum percentage of virtual memory necessary for this server to start a session:**

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Startup tab.
4. In the Minimum Available Virtual Memory field, enter the minimum percentage number necessary for sessions to be allowed on this server.
5. Click OK.

Session Shutdown

For information on shutting down the iFIX WebSpace session, refer to the following sections:

- Specifying the Session Limit
- Specifying the Idle Limit
- Specifying the Warning Period
- Specifying the Grace Period

Specifying the Session Limit

The session limit is the number of minutes that sessions are allowed to run on an iFIX WebSpace Server.

► To specify the session limit:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Shutdown tab.
4. Select the Session check box.
5. In the field next to the check box, enter the number of minutes that a session is allowed to run on a server before its user is logged off.
6. Click OK.

The minimum number of session time is 1 minute and the maximum is 44640 minutes (31 days). This feature is disabled by default.

Specifying the Idle Limit

Idle time refers to the number of minutes since the last mouse or keyboard input event was received in a session. The idle limit is the number of minutes of idle time that an iFIX WebSpace Server allows.

► To specify the idle limit:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Shutdown tab.
4. Select the Idle check box.
5. In the field next to the check box, enter the number of minutes of idle time allowed by the server.
6. From the Action drop-down list, select either Disconnect to disconnect users when the idle limit has been reached, or Log off to log users off when the idle limit has been reached.

7. Click OK.

The minimum number of idle time is 1 minute and the maximum is 44640 minutes (31 days). This feature is disabled by default.

Specifying the Warning Period

The warning period represents the number of minutes before a session limit or idle limit is reached when users are warned they are about to be disconnected or logged off. For example, if the warning period is set to 2, users will be warned 2 minutes before the session limit or the idle limit is reached.

The warning period must be less than the session limit and idle limit settings. This feature is disabled by default.

► To specify the warning period:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Shutdown tab.
4. Select the Warning period check box.

NOTE: Either a Session or Idle time-out must be configured for the Warning period check box to become available.

5. In the field next to the check box, enter the number of minutes before a session or idle limit is reached when users are warned that they are about to be disconnected or logged off.
6. Click OK.

Specifying the Grace Period

The grace period allows you specify the number of minutes required to provide for a graceful shutdown of iFIX and all of its processes when a session is being closed. The Grace Period defaults to a value of 1 minute and should ONLY be changed at the instruction of iFIX Customer Support personnel.

► To specify the grace period:

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Shutdown tab.
4. Select the Grace period check box.

NOTE: Either a Session or Idle time-out must be configured for the Grace period check box to become available.

5. In the field next to the check box, enter the number of minutes after a logoff that users are able to save files and close applications, and so on.
6. Click OK.

The minimum grace period value is 1 minute and the maximum value is 15. By default, the grace period is 1 minute.

Security Options

For information on iFIX WebSpace security options, refer to the following sections:

- Authentication Overview
- Selecting the Transport Mode
- Encrypting Sessions
- Generating a CSR Using IIS Certificate Wizard
- Notifying Users of a Secure Connection
- Modifying the Server Ports
- Client-Side Password Caching
- Hiding Server Drives

Authentication Overview

Standard Windows authentication is the default method for authenticating users on a iFIX WebSpace Server. Standard authentication allows users to sign in to an iFIX WebSpace Server from the Sign In dialog by supplying their user name and password. Once authenticated, users are added to the server's INTERACTIVE group and given the same access rights as if they had signed in to the iFIX WebSpace at its console.

Users logging onto an iFIX WebSpace Server with standard authentication are:

- Added to the server's INTERACTIVE group.
- Granted the same access rights that they have when logging onto the server at its console.

IMPORTANT: *In a Relay Server configuration, a user logs in to the Dependent Application Server, but the user credentials must also be authenticated at the Relay Server to get obtain an iFIX WebSpace “license token.”*

Standard authentication includes logging on either with a user name and password supplied by any of the following:

- Logon dialog box
- HTML parameters
- Command-line arguments

Selecting the Transport Mode

The iFIX WebSpace provides support for both Transmission Control Protocol (TCP) and Secure Socket Layer (SSL) as methods for communication between Windows and the iFIX WebSpace Server. When selecting the SSL transport, an SSL Certificate file must be specified. SSL certificates are required to secure communication between iFIX WebSpace sessions and the iFIX WebSpace Server.

You can obtain a certificate from a trusted Certificate Authority (CA) such as Verisign or Thawte, or you can create your own certificate authority and then sign your server certificates from this authority.

► **To select the transport mode:**

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Security tab.
4. In the Transport drop-down list, select TCP or SSL.
5. When selecting SSL transport, type or browse to the path of the server's certificate in the SSL Certificate box.
6. Click OK.

When the SSL transport is selected, all connections to that iFIX WebSpace Server use the SSL transport and the selected encryption algorithm, including connections from iFIX WebSpace sessions. iFIX WebSpace sessions that do not support SSL will be unable to connect to the server using the SSL transport unless the Use TCP as fallback option is enabled.

► **To select TCP as the fallback transport mode:**

1. From the iFIX WebSpace Administration, in the server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Security tab.
4. In the Transport drop-down list, select SSL.
5. Select the Use TCP as fallback check box.
6. Click OK.

Encrypting Sessions

For purposes of security, administrators can optionally encrypt all data transmitted between the client and the server. This includes the client's user name and password, which are supplied during logon, and any application data submitted by the client or returned by the server. The iFIX WebSpace uses 56-bit DES encryption.

► **To encrypt a server's sessions:**

1. From the iFIX WebSpace Administration, in the iFIX WebSpace Server tree, select the desired server from the list.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Security tab.
4. From the Encryption drop-down list, select an encryption level.
5. Click OK.

After you have enabled encryption, all new iFIX WebSpace sessions will be encrypted. Sessions that

are active when the feature is enabled will remain unencrypted. The next time the user logs on to the iFIX WebSpace Server, however, his or her session will be encrypted. The user must log off the iFIX WebSpace Server, and log back on in order for his or her session to be encrypted.

Generating a CSR Using IIS Certificate Wizard

The iFIX WebSpace requires that the certificate be in PEM format.

Notifying Users of a Secure Connection

When the SSL transport is selected as the transport mode, you can opt to notify users when connections are secure.

► To notify users when connections are secure:

1. In the iFIX WebSpace Administration, in the iFIX WebSpace Server tree, select the server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Security tab.
4. In the Transport list box, select SSL.
5. In the SSL Certificate field, type or browse to the path of the server's certificate file.
6. Select the Notify users when connections are secure option.
7. Click OK.

Modifying the Server Ports

When you install the iFIX WebSpace, and the firewall is enabled, the install automatically prompts you to add the iFIX WebSpace to your exception list. This allows users to access the iFIX WebSpace Server through a firewall or router. Administrators can modify the iFIX WebSpace Server port setting for the iFIX WebSpace Application Publishing Service. The default port number for both TCP and SSL is 491.

Port 492 is the port used by the "iFIX WebSpace Relay Client Manager Service" to centrally manage the WebSpace user count in a Relay Server configuration. This port is not configurable through the iFIX WebSpace Administration application, however you can configure it through the WebSpace.ini file.

► To modify the server port setting for the iFIX WebSpace Application Publishing Service:

1. In the iFIX WebSpace Administration, in the iFIX WebSpace Server tree, select the server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Security tab.
4. In the Port edit box, enter a new port number.
5. Click OK.

► To modify the server port setting for the iFIX WebSpace Relay Client Manager

Service:

1. On the iFIX WebSpace Server, open Windows Explorer and browse to the iFIX install folder.
2. In a text editor such as Notepad, open the WebSpace.ini file.
3. Enter the new Port number next to the RelayClientManagerPort field:

[RelayClientManagerPreferences]

RelayClientManagerPort=492

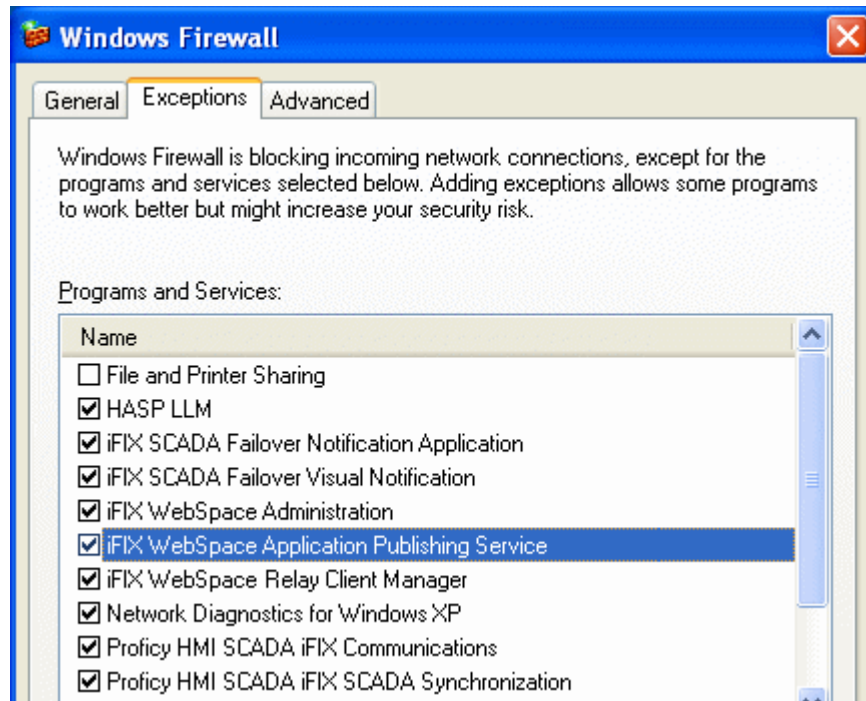
4. Save the file.

NOTE: In a Relay Server Configuration, if you change the ports, make sure the port usage is the same on the Relay Server and each Dependent Application Server.

After You Change the Port

After changing the server port number, you must:

- Restart the service and any other services that depend on it. For example, if you change port 491 and you allow client printing, you must restart the "iFIX WebSpace Application Publishing Service" and the Print Spooler Service in order for client printing to work on a port other than the default port 491.
- Modify the port parameter from the iFIX WebSpace hyperlink, if you are using a command line. Use the port parameter followed by the new port number (for example, http://WebSpaceServerName/iFIX_WebSpace/logon.html?port=1667).
- Modify the port parameter argument, if using the iFIX WebSpace from a desktop shortcut or the Connection dialog box. Append the -hp argument (followed by the new port number) to the shortcut (for example, "C:\Program Files\Proficy\iFIX WebSpace\Client\iFIX.exe" -h server1 -hp 1667). If you specify the port number in the Connection dialog box when signing in to iFIX WebSpace, in the Host Address box, type the host name or IP address, followed by a colon and the port number (for example, server1:1667). If the new port number is not specified by either of these methods, users will be unable to sign in to iFIX WebSpace.
- Enable the new port through your firewall software. For example, the following figure shows a list of Windows Firewall exceptions that includes the iFIX WebSpace applications:



Client-Side Password Caching

Client-side password caching allows users who are not members of the iFIX WebSpace Server's domain to log on without having to enter their user name and password every time they connect to the server. After the first manual authentication, the user logon credentials are encrypted on the server using the SYSTEM account context, transmitted over the network, and stored on client computers in user-private directories.

When the user makes subsequent connections to the server, the cached password is transmitted back to the server, where it is decrypted using the SYSTEM account context and then used to automatically log the user on to the iFIX WebSpace Server. The user is added to the server's INTERACTIVE group and granted the same access rights had that user logged on to the server at its console. The Sign In dialog is displayed with the user name and password and with Remember me on this computer checked. If the user disables the Remember me on this computer option, the user's credentials will be deleted from the client computer.

► To enable client-side password caching:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Security tab.
4. Select the Cache Passwords on the Client check box.

NOTE: This option is only available if the Standard Authentication option is also selected.

5. Click OK.

On most platforms, the cached password is stored in the user's home directory in a .dat file named for the iFIX WebSpace Server. For example, for the iFIX WebSpace ActiveX Control, C:\Documents and Settings\user1\Application Data\Proficy\iFIX WebSpace Server\server1.dat is an example location of

the cached password. In this example, *user1* is the iFIX or Proficy Pulse user logged into the WebSpace session, and *server1* is the name of the iFIX WebSpace Server.

Client-side password caching is supported on Internet Explorer, Mozilla Firefox, and the Desktop Client.

IMPORTANT: *If you are concerned about public computers retaining cached passwords, you should clear the Cache Passwords on the Client check box on the iFIX WebSpace Server. By default, this option is cleared.*

Hiding Server Drives

Microsoft's Group Policy Objects lets you hide specific host drives. For instructions, see <http://support.microsoft.com/kb/231289>. To hide host drives, the Apply Group Policy option must be enabled in the Host Options dialog box in the iFIX WebSpace Administration application.

Password Change

Password changes can be made through Windows security groups and accounts. Users can change passwords when:

- The administrator requires the user to change his or her password at the next logon. For more information, refer to the Changing Passwords at Next Logon section.
- The security policy is configured to prompt users to change passwords before expiration. For more information, refer to the Prompting Users to Change Passwords Before Expiration section.
- The user's password has expired. For more information, refer to the Prompting Users to Change Passwords After Expiration section.

Changing Passwords at Next Logon

Administrators can require a user to change his or her password by checking the User must change password at next logon option in the Windows user configuration setup.

For Local accounts, you can access these properties by right-clicking My Computer and Selecting Manage. The Computer Management window appears. In the System Tools folder, there is a Local Users and Groups folder. Locate the user name in this folder, right-click it and select Properties. The General tab displays the settings.

► To log on when the "User must change password at next logon" option is enabled:

1. From your web browser, access the iFIX WebSpace logon page (<http://ServerName/iFIXWebSpace>) and select the appropriate iFIX WebSpace session.
2. In the Logon dialog, type the user name and password. If the account does not exist in the domain in which the iFIX WebSpace Server resides, include the domain name in the User name field as a prefix (for example: domain\username).
3. Click OK. The following message displays:
You are required to change your password at first logon.

4. Click OK. The Change Password dialog box appears.
5. In the New Password and Confirm New Password fields, enter the new password.
6. Click OK.

Prompting Users to Change Passwords Before Expiration

By default, users are prompted to change their passwords whenever they log on within 14 days of their password's scheduled date of expiration. Administrators can modify the change password "prompt" period by editing the Prompt user to change password security setting. For example, the Local security settings can be viewed and changed by clicking Start, and then pointing to Settings, Control Panel, Administrative Tools, and then Local Security Policy. The User Configuration folder contains the Security Settings.

NOTE: Be aware that if you open a web session and the user name includes a password that is due to expire, the Password Expiration dialog box remains in the background and loses focus. As a workaround, move the Login dialog box to access the Password Expiration dialog box, and then click Yes and continue.

► To log on during the password change "prompt" period:

1. From your web browser, access the iFIX WebSpace logon page (<http://ServerName/iFIXWebSpace>) and select the appropriate iFIX WebSpace session.
2. In the Logon dialog, type the user name and password. If the account does not exist in the domain in which the iFIX WebSpace Server resides, include the domain name in the User name field as a prefix (for example: domain\username).
3. Click OK. The following message displays:

"Your password will expire in x day(s). Do you want to change your password now? Yes/No"

If you click No, the iFIX WebSpace session starts. If you click Yes, the Change Password dialog appears.

4. If the Change Password dialog box appears, in the New Password and Confirm New Password fields, enter the new password and click OK.

Prompting Users to Change Passwords After Expiration

► To log on after a password has expired:

1. From your web browser, access the iFIX WebSpace logon page (<http://ServerName/iFIXWebSpace>) and select the appropriate iFIX WebSpace session.
2. In the Logon dialog, type the user name and password. If the account does not exist in the domain in which the iFIX WebSpace Server resides, include the domain name in the User name field as a prefix (for example: domain\username).
3. Click OK. The following message displays:

Your password has expired and must be changed.
4. Click OK. The Change Password dialog box appears.

5. In the New Password and Confirm New Password fields, enter the new password.
6. Click OK.

Monitoring Server Activity

The iFIX WebSpace Administration displays information about server activity and processes taking place on the iFIX WebSpace Server. Administrators can use this information to determine whether additional servers are required and which sessions are no longer being used.

The following sections provide more information on how to monitor and refresh server activity:

- Refreshing the iFIX WebSpace Administration
- Setting the Refresh Rate in the iFIX WebSpace Administration
- Restarting the iFIX WebSpace Application Publishing Service
- Viewing Performance Counters
- Working with Sessions and Processes

Refreshing the iFIX WebSpace Administration

You can update the information displayed in the iFIX WebSpace Administration manually or you can set it to update automatically. If the iFIX WebSpace Administration is set to update automatically, you can still update it manually at any time.

For information about setting the iFIX WebSpace Administration to update automatically or manually, refer to the Setting the Refresh Rate in the iFIX WebSpace Administration section.

► To refresh the iFIX WebSpace Administration:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the View menu, click Refresh. The data should refresh in the window as you are viewing it.

Setting the Refresh Rate in the iFIX WebSpace Administration

You can set the Sessions, Processes, and Applications tabs in the main window of the iFIX WebSpace Administration to manually refresh or to automatically refresh at a specified frequency.

► To set the refresh rate to allow only manual refresh:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the View menu, click Options. The Options dialog box appears.
3. Select Manual.
4. Click OK.

► **To set the refresh rate to refresh automatically:**

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the View menu, click Options. The Options dialog box appears.
3. Select the Refresh every _ seconds option.
4. In the Seconds edit box, type a value.
5. Click OK.

Restarting the iFIX WebSpace Application Publishing Service

There may be times when you need to restart the iFIX WebSpace Application Publishing Service. For example, if you change the SCU path on the Applications tab, after you already entered it for the first time, you will need to restart this service.

You can restart the service from the Proficy iFIX WebSpace group on the Start menu, or from the Services window from the Windows Administrative tools.

► **To restart the iFIX WebSpace Application Publishing Service:**

1. On the Start menu, point to Programs, Proficy iFIX WebSpace, and then click Stop iFIX WebSpace Server.
2. Wait a few moments for the action to complete. A command window opens briefly and then closes.
3. On the Start menu, point to Programs, Proficy iFIX WebSpace, and then click Start iFIX WebSpace Server.
4. Wait a few moments for the action to complete. A command window opens briefly and then closes.

Viewing Performance Counters

iFIX WebSpace Server performance counters can be added to the Windows Performance Monitor to track the number of active sessions and the number of clients connected to a server. iFIX WebSpace Server performance counters allow administrators to monitor server activity from any machine with network access to an iFIX WebSpace Server. The Remote Registry Service (Regsvc.exe) must be enabled for remote performance monitoring to work.

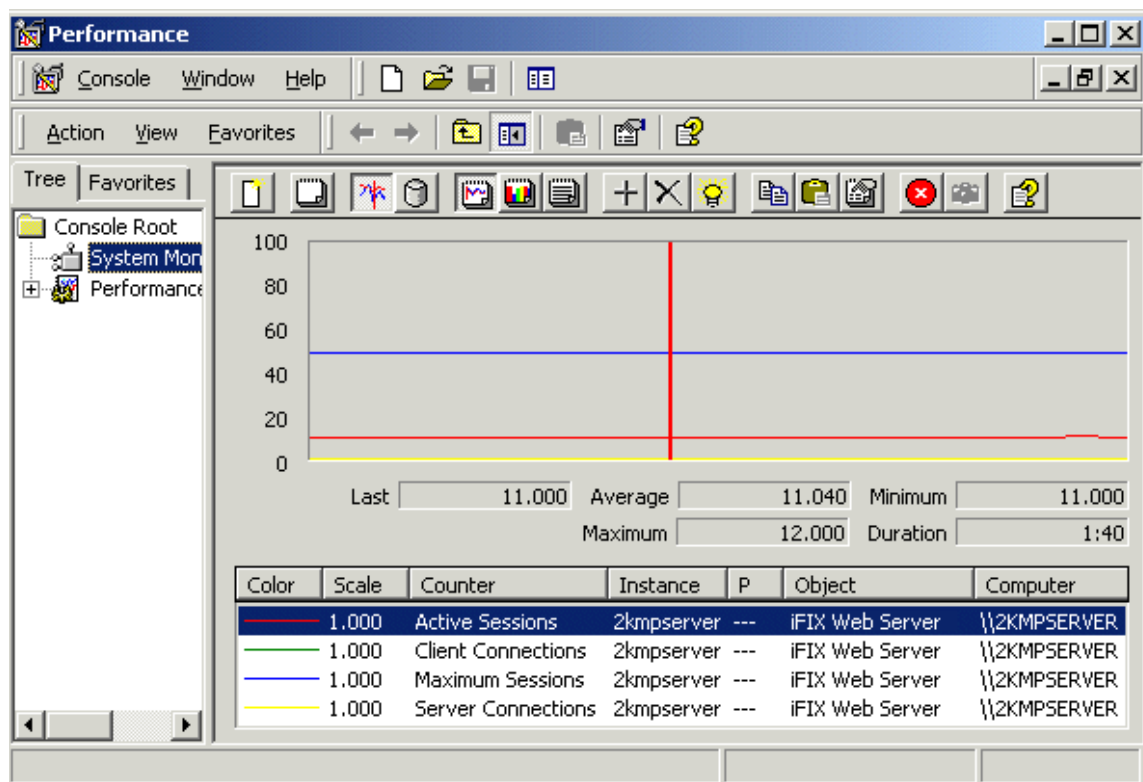
► **To add iFIX WebSpace Server performance counters to the Performance Monitor:**

1. On the Start menu, point to Programs, Settings, Control Panel, Administrative Tools, and then click Performance. The Performance window appears.
2. Click the + button to add counter(s). The Add Counters dialog box appears.
3. From the Performance Object drop-down list, locate and click iFIX WebSpace Server.
4. From the Counter list, select the desired counters (Active Sessions, Client Connections, Maximum Sessions, Server Connections) and click Add.
5. Click Close.

iFIX WebSpace Server Performance Counters

iFIX WebSpace Server performance counters include:

Counter	Description
Client Connections	The total number of client connections on the iFIX WebSpace Server.
Server Connections	Not applicable.
Active Sessions	For sessions host on that server, currently running on the computer.
Maximum Sessions	This displays the Maximum Sessions per user setting in the Host Options dialog, on the Session Startup tab.



Working with Sessions and Processes

The following sections describe how to view session and process information for the iFIX WebSpace product:

- Viewing Session Information
- Viewing Process Information
- Ending Client Processes

Viewing Pictures From a Web Browser

- Reconnecting a Session
- Shadowing a Session
- Terminating Sessions
- Setting the Session Termination Option

Viewing Session Information

The iFIX WebSpace Administration displays the following session information:

Column	Displays the...
Session Name	Unique identifier assigned to each session.
User	Network user name of the user accessing the server.
Connected Clients	The number of clients connected to a session. 0 indicates that no one is connected to the session (the client has disconnected). 1 indicates that the client is connected and the session is active. 2 or higher indicates that the session is being shadowed.
IP Address	IP address of the client computer from which the user is accessing the server. (Each computer on a network has a unique IP address.)
Startup Time	Date and time the user started the application.
Applications	Number of processes the user is accessing.

► To view session information:

- Click the Sessions tab.

NOTE: Click the All Servers icon from the left panel of the iFIX WebSpace Administration to view a list of all active sessions on the network. This allows you to view active iFIX WebSpace sessions without connecting to individual servers.

Viewing Process Information

A process refers to the specific application that a client is running from the server. The iFIX WebSpace Administration displays the following process information:

Column	Displays the...
Name	Name of the application running on the server.

Column	Displays the...
User	Network user name of the user accessing the application.
Startup Time	Date and time the user started the application.
Process ID	Process identification number assigned by the server's operating system. (The number for each running application matches the process identification number displayed in the Windows Task Manager.)

► **To view iFIX WebSpace process information:**

- From the iFIX WebSpace Administration application, in the main window, click the Processes tab.

Ending Client Processes

Processes are any actions taking place on the iFIX WebSpace Server that are initiated by a client. An iFIX WebSpace session, for example, is a process. Each running iFIX WebSpace session is assigned a unique name and process ID in the Windows Task Manager. These process names and IDs are duplicated in the iFIX WebSpace Administration. iFIX WebSpace administrators can end any process from the iFIX WebSpace Administration.

► **To end an iFIX WebSpace process:**

1. From the iFIX WebSpace Administration application, in the main window, click the Processes tab.
2. Select the process or processes you want to end.
3. On the Tools menu, point to Processes, and then click Terminate.

Reconnecting a Session

Session reconnect allows sessions to be maintained on an iFIX WebSpace Server without a client connection. If the client's connection to the server is lost, intentionally or unintentionally, the user's session remains running on the iFIX WebSpace Server for the length of the session time-out specified with the iFIX WebSpace Administration. Session reconnect allows users to return to their iFIX WebSpace session in the exact state they left it.

If the network connection is lost or if users unintentionally disconnect from iFIX WebSpace, their session state is preserved for the length of time specified in the iFIX WebSpace Administration. After a user is authenticated through normal logon procedures, the iFIX WebSpace Server determines if the user has an active session. If so, that session is resumed and appears exactly as it did prior to disconnection. If not, a new session is started. Users are also able to disconnect from one client and reconnect to the session from another client.

When attempting to reconnect to a disconnected session, users are required to specify their logon credentials. After the server validates them, the server reconnects them to the disconnected session. If the session is hosted on a server that is part of a Relay Server configuration, the user is routed to his or

her session without any indication that the session is on a Relay Server. If Integrated Windows authentication is available, users are automatically re-authenticated and re-connected to their session.

Shadowing a Session

Session shadowing allows multiple users to view and control a single iFIX WebSpace session. Only administrators can connect to running iFIX WebSpace sessions, but only with permission from the session's user. A shadow session does not consume a license; however, each open browser window (even if logged on under the same user name) does consume a license.

► To shadow a session:

1. From the iFIX WebSpace Administration application, in the main window, click the Sessions tab.
2. From the Sessions Name column, select the session(s) you would like to shadow.
3. On the Tools menu, point to Sessions, and then click Connect.

-Or-

From the Sessions Name column, right-click the session you would like to shadow, then click Connect.

Once the session is selected, a message is displayed to the session's user requesting permission to connect to the session. If the user clicks Yes, and allows access to his or her session, the connection is made immediately and the iFIX WebSpace session opens in a new frame window.

If the user clicks No and denies access, the following message is displayed on the server:

The session's owner has denied access to the session.

Session shadowing will also be denied when the session is disconnected, when the session is in the process of shutting down, or when the user fails to respond within one minute. Connection is also denied in the event of an iFIX WebSpace communication failure.

The Sessions tab in the main windows of the iFIX WebSpace Administration displays the number of clients connected to a session. Two or more clients in the Connected Clients column indicates that the session is being shadowed. Disconnected sessions have 0 connected clients. To disconnect from a session and end session shadowing, simply close the frame window where the session is displayed.

NOTE: When an iFIX WebSpace session is being shadowed, the server's cursor remains on the client until that session is closed. It does not go away even when the session is no longer being shadowed.

Terminating Sessions

When terminating a user's session, all iFIX WebSpace sessions for that user stop, and the user is logged off the iFIX WebSpace Server.

► To terminate a session:

1. From the iFIX WebSpace Administration application, in the main window, click the Sessions tab.
2. From the Session Name column, select the session(s) you want to terminate.

3. On the Tools menu, point to Sessions, and then click Terminate.

NOTES:

- You can also right-click on the selected session(s) and click Terminate from the shortcut menu.
- Terminating a session without giving users a chance to close their application can result in the loss of data.

Setting the Session Termination Option

Administrators control how long iFIX WebSpace sessions remain running on the iFIX WebSpace Server through the iFIX WebSpace Administration's Host Options dialog. Select the Immediately option if you want the iFIX WebSpace sessions and all running processes to be terminated as soon as the session disconnects. Select the After _ minutes option to specify the number of minutes that a session will remain running after a client has disconnected from the session. Figure the number of minutes (n) and enter (n+1) in the edit field that a session should remain running after the client disconnects. This extra minute allows iFIX or Proficy Pulse to shut itself down gracefully instead of getting terminated immediately. The After 1 minute option is the default setting.

If you select the After 1 minute option, a shutdown message appears in the event log and the processes stop gracefully. With the Immediately option, running processes get terminated without notice, and stop immediately.

The Sessions tab in the main windows of the iFIX WebSpace Administration displays the number of clients connected to a session. Disconnected sessions have 0 connected clients.

► To set the session termination option:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Session Shutdown tab.
4. In the Disconnected sessions terminate area, select one of the following disconnected session termination options:
 - Immediately
 - After _ minutes. In the edit box, type the number of minutes plus one that sessions should remain running after their clients disconnect. For example, if you want to leave it running 2 minutes, enter 3 minutes in this edit field.
5. Click OK.

Log Files

The iFIX WebSpace Server creates log files for certain iFIX WebSpace processes. These files are stored in the log directory and are used to record program errors and events. With this information, Technical Support can diagnose and correct problems that may arise. This can be especially helpful for errors that are only reproducible on specific machines or with a specific application.

All log files, whether they pertain to the client or server machine, are located on the iFIX WebSpace

Server. By default, this path is: C:\Program Files\Proficy\iFIX WebSpace\Log. In Log folder are three subfolders: Backup, Codes, and Templates. Be careful not to delete these folders. iFIX WebSpace messages are recorded within log files prefixed with aps and followed by the date and time (to the nearest millisecond) the iFIX WebSpace Application Publishing Service was started (for example: aps_2007-04-04_09-55-47-636.html). A new log file is created each time the iFIX WebSpace Application Publishing Service is started. The log file with the latest date and time stamp contains messages for the current or most recent instance of the iFIX WebSpace Application Publishing Service.

Problems detected in the execution of iFIX WebSpace are described by entries in the log file. Each entry is uniquely identified by an item number along with a date and time stamp, and a description of the event or program error. Technical Support uses this information to locate a problem's source and to determine its resolution.

Entries in the log file may also include prefixes for locating messages associated with an individual user's session. If the event occurred within the context of a given session, the name of the session will appear at the beginning of the message, *for example, SuzyG on Server1*. If the message prefix contains the connection name aps, the event occurred within the iFIX WebSpace Application Publishing Service, but was not associated with a connection to another process.

For example, for "iexplore (1908) A client at IP address 3.26.60.91 disconnected from session Logon2 on Fxbifixoct", 1908 is the ID of the process in which the event took place, 3.26.60.91 is the IP address of the iFIX WebSpace session, and Fxbifixoct is the name of the iFIX WebSpace Server.

Example Use of Log Files

Say for instance you can not make a connection to the iFIX WebSpace Server when you log on from a web session. It could be because you do not have enough physical or virtual memory available to make the connection. Set the output log level to 4 on the server, as described in the Setting the Output Level section, and try to log on again. If the issue was a memory issue, you would see a message similar to this in the log file:

"A session could not be created for user because only 62,935,040 bytes of physical memory were available. The minimum requirement is 134,217,728 bytes."

Selecting a New Location for the Log Files

By default, log files are created and stored in the Log folder on the iFIX WebSpace Server machine. By default, this folder is: C:\Program Files\Proficy\iFIX WebSpace\Log. You can select a new location for the log files through the iFIX WebSpace Administration's Host Options dialog.

Be aware that the iFIX WebSpace Server cannot back up log files directly to a network folder. For example, if you type a UNC path or a mapped network drive in the folder edit box, the following message is displayed:

"Please specify a usable Windows folder where log files may be written."

► To select a new location for the Log files:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Log tab.

4. In the Folder edit box, type the path to the new directory or browse to its location.

NOTE: You should move the Backup folder and existing log files to the new location, along with the Templates and Codes subfolders.

Setting the Output Level

iFIX WebSpace offers six log output levels, as follows:

Level	Description
0	No output
1	Errors
2	Errors and Events (Default Setting)
3	Errors, Events and Warnings
4	Errors, Events, Warnings, and Diagnostic Messages
5, 6	Errors, Events, Warnings, Diagnostic Messages, and Trace Messages

► To set the output level:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click Log tab.
4. In the Output level edit box, enter one of the above numeric values.

IMPORTANT:

- *Setting the log output value to 5 or 6 may adversely affect iFIX WebSpace performance. These output levels yield very large files, and should only be used in a controlled environment – preferably when only one client is accessing the iFIX WebSpace Server. The default value for the Output level is 2.*
- *Changes to the Output Level are applied to iFIX WebSpace sessions that are started after the change.*

Maintaining Log Files

The iFIX WebSpace creates a new log file every time the iFIX WebSpace Application Publishing Service starts. Over time these files can accumulate and consume a significant amount of disk space. To help manage these files, the iFIX WebSpace lets you delete or backup log files and set file size or age limits. By default, the logs are stored in this folder on the iFIX WebSpace Server: C:\Program Files\Proficy\iFIX WebSpace\Log.

► **To delete log files:**

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Log tab.
4. In the Maintenance area, from the drop-down list, select Delete.
5. In the Files more than _ days old field, specify how old (in days) log files can become before being deleted.
6. In the _ MBs in size field, specify at what size (in megabytes) log files are to be deleted.
7. Click OK.
8. Restart the iFIX WebSpace Application Publishing Service.

► **To backup log files:**

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Log tab.
4. In the Maintenance area, from the drop-down list, select Back Up.
5. In the Files more than _ days old field, specify how old (in days) log files can become before being moved to the Backup subdirectory of the Log folder.
6. In the _ MBs in size field, specify at what size (in megabytes) log files are to be moved to the Backup subdirectory of the Log folder.
7. Click OK.
8. Restart the iFIX WebSpace Application Publishing Service.

Once every half hour, and each time it is started, the iFIX WebSpace Application Publishing Service searches the Log folder for files that have not been modified for more than the specified number of days. It then either deletes the files or moves them to the Backup subdirectory of the Log folder. If while sweeping the log files, the iFIX WebSpace Application Publishing Service finds that nothing that the age or size limit has been met in the current log file, it closes the file and installs a newly created file in its place.

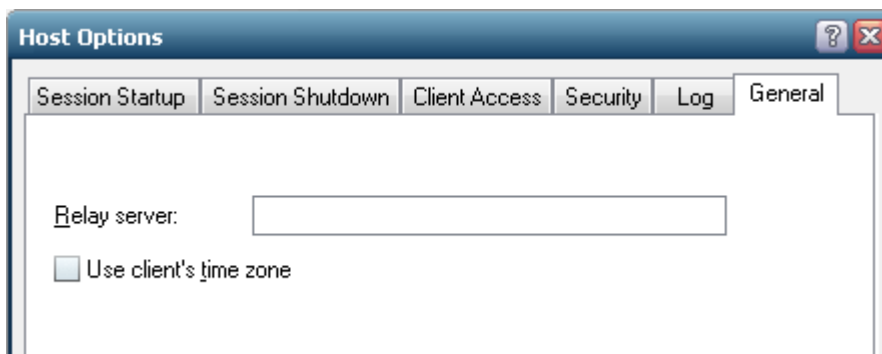
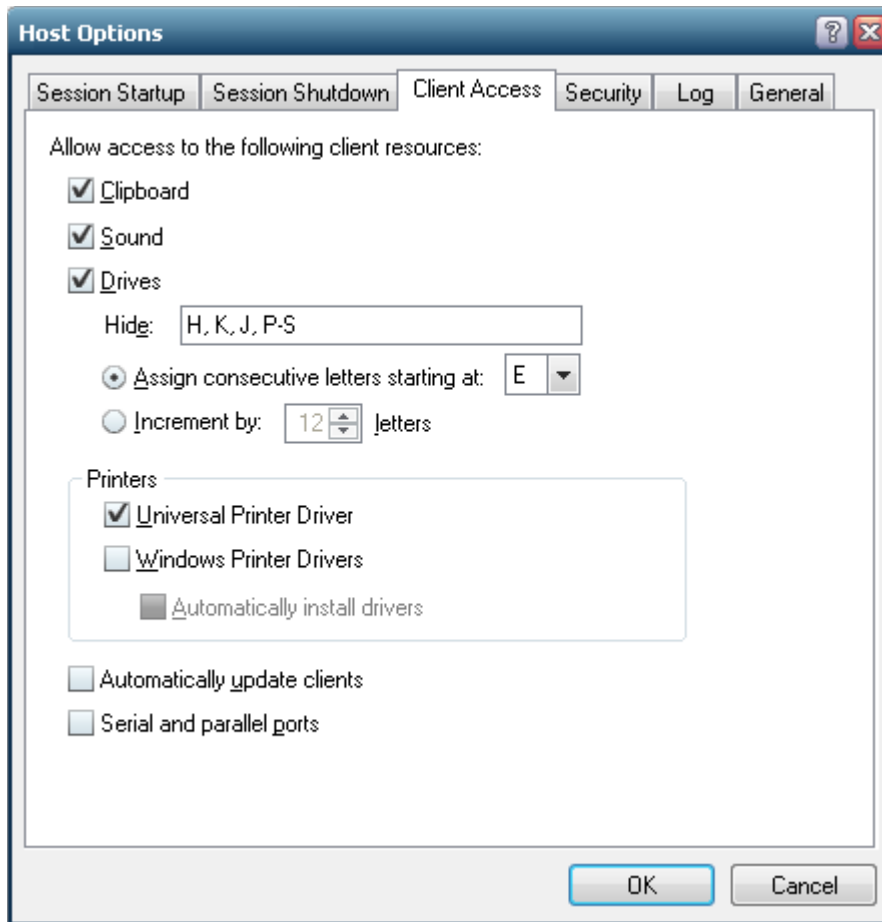
By default, inactive log files are backed up after 7 days or when the file size has reached 20 MB.

Configuring Optional Web Session Properties

There are other optional settings that you can configure for your iFIX WebSpace session through the iFIX WebSpace Administration. These include the following items:

- Clipboard Access
- Sounds
- Drive Access
- Hidden Drives
- File Usage Restrictions
- Client Drive Remapping
- Port Access
- Client Printing
- Network Printing
- Client Time Zone Redirection

Refer to each section for more information. All of these settings can be configured from the Client Access and General tabs of the Host Options dialog box in the iFIX WebSpace Administration application, as shown in the following figures.



Clipboard Access

You can cut and copy information from an iFIX WebSpace session and paste it into applications running on an iFIX WebSpace Server, and vice versa. Clipboard support is disabled by default.

► To enable clipboard support:

1. In the iFIX WebSpace Administration, select the desired server from the list of All Servers.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.

3. Click the Client Access tab.
4. Click the Clipboard check box.
5. Click OK.

Any clipboard data from the browser session is available only within the Workspace application. In order to copy the contents to other applications on the local disk of the client machine you must create a shell script within an object inside your Workspace picture that launches Notepad.exe, on the iFIX WebSpace Server. After you do this, you can use this object to launch Notepad in run mode from the web session. Paste the contents into Notepad, and save this file to the local disk of web session computer.

Sounds

The iFIX WebSpace supports sound capability for any application that uses PlaySound, sndPlaySound, or waveOut. It is not required that sound cards and/or speakers be installed on iFIX WebSpace Servers. The client machine, however, does require a sound card and speakers. Audio support is disabled by default on the iFIX WebSpace sessions.

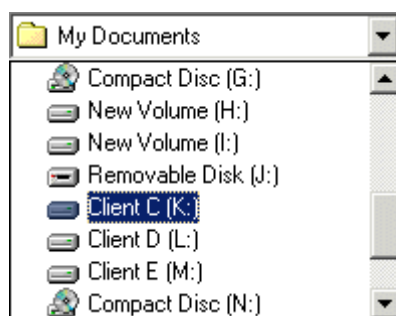
IMPORTANT: Be aware that client sound capability requires the loading of iFIX WebSpace libraries into session processes. This can affect the startup of a process, make some processes incompatible with iFIX WebSpace, or have fatal consequences during suspend/resume operations. Use caution when enabling this setting.

► To enable support for client sound:

1. In the iFIX WebSpace Administration, select the desired server from the list of All Servers.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Click the Sound check box.
5. Click OK.

Drive Access

The iFIX WebSpace allows users to access files stored on the client computer, and to save files locally. Client drives will be listed in the application's Open and Save as dialog boxes, and are designated with a Client prefix. For example: Client C (K:), Client D (L:).



The dialog boxes list both client and server drives. In order for clients to open or save files locally, the client drives feature must be enabled on the iFIX WebSpace Server. Support for client drives is disabled by default.

iFIX WebSpace allows users to access USB drives. Removable drives such as floppy disks, CD ROMs, and DVD-ROMs are not supported as client drives.

► To enable support for client drives:

1. In the iFIX WebSpace Administration, select the desired server from the list of All Servers.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the Drives check box.
5. Click OK.

Hidden Drives

Hiding Client Drives

Through the iFIX WebSpace Administration, administrators can hide drives on the client machine where the iFIX WebSpace session runs, such as the operating system drive, floppy drive, and CD ROM drive. Hidden drives are inaccessible to the user through the iFIX WebSpace session.

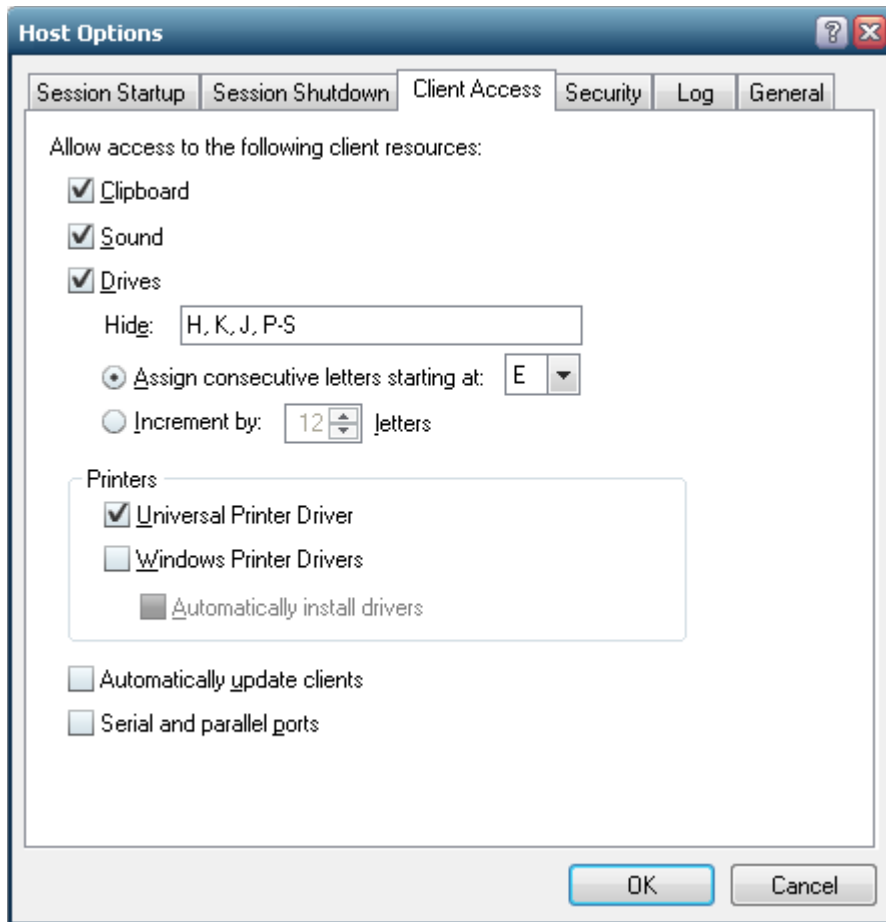
► To hide one or more client drives:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the Drives check box.
5. In the Hide field, enter the client drive letters you want to hide.

NOTE: All client drives are mapped by default. Drives listed in the Hide box can be listed in any order. To hide server drives, see *Hiding Server Drives*.

6. Click OK.

The following figure shows an example of hidden H, J, and K drives, along with drives P through S.



Hiding Server Drives

Microsoft's Group Policy Objects lets you hide specific host drives. For instructions, see <http://support.microsoft.com/kb/231289>. To hide host drives, the Apply Group Policy option must be enabled in the Host Options dialog box in the iFIX WebSpace Administration application.

File Usage Restrictions

As the system administrator, you may need to restrict user access to certain files and resources from the iFIX WebSpace sessions. Keep in mind that there are multiple users accessing the server.

Particularly in a Relay Server environment, it is recommended to write-protect your system and application folders so that users are unable to save files on an iFIX WebSpace Server. Otherwise, the next time a user logs on to iFIX WebSpace and is routed to a different server, the files and folders will be inaccessible.

You must use Windows Explorer to set the permissions for files on the server, in an individual file-by-file or folder-by-folder basis. By setting file permissions, you can restrict user access to applications, printers, and folders. File permissions can only be set on drives formatted with the Windows NT file system (NTFS). If you are using the FAT file system, you will be unable to set permissions for specific files or restrict access to applications.

Once an application's permissions have been set, you can assign specific parameters for the application with the iFIX WebSpace Administration.

Client Drive Remapping

With the Client Drives feature enabled, the iFIX WebSpace must ensure there is a one-to-one mapping between drive letters and the drives of the client and server computers. If a drive on the client and a drive on the server are assigned the same drive letter, the iFIX WebSpace must assign a new drive letter to one of the drives. Client drives can be remapped by either listing them sequentially starting at a given drive letter or incrementing their drive letters by a specified value.

► To list client drives sequentially starting at a given drive letter:

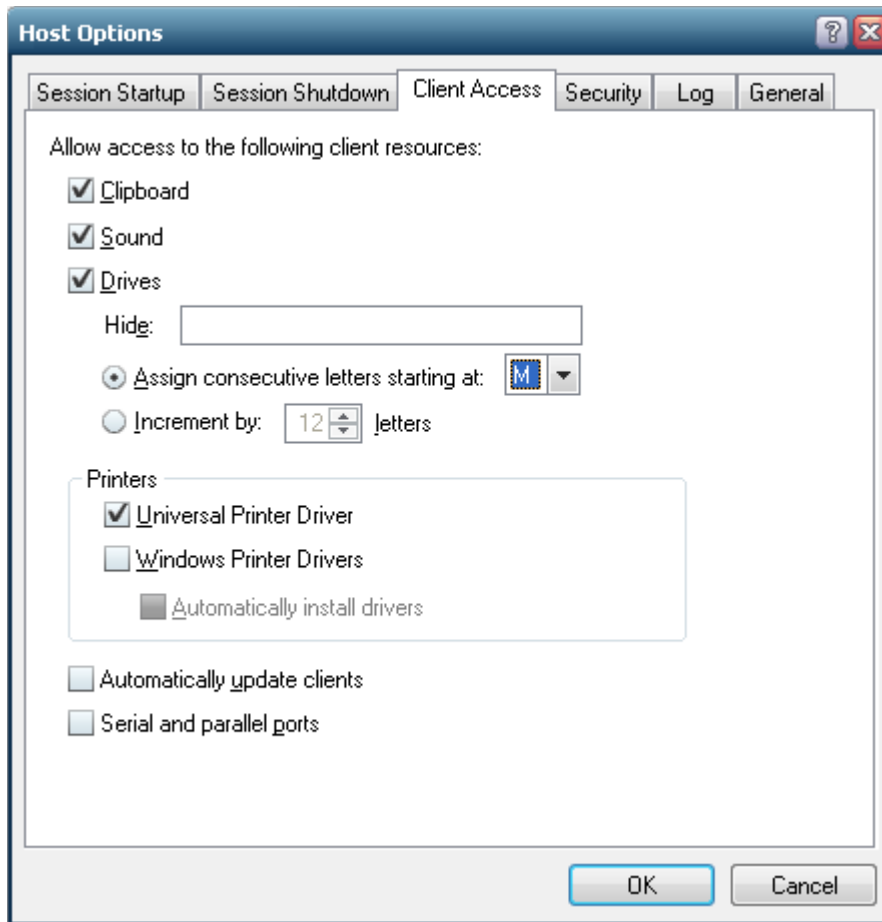
1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the Drives check box.
5. Select the Assign consecutive letters starting at: _ option.
6. In the drop-down list next to the field, select the drive letter that should start the sequence.
7. Click OK.

► To increment client drive letters by a fixed value:

1. From the iFIX WebSpace Administration, on the server list, select the desired server.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the Drives check box.
5. Select the Increment by: _ option.
6. In the edit field, type a number greater than or equal to 1 that will yield the desired offset.
7. Click OK.

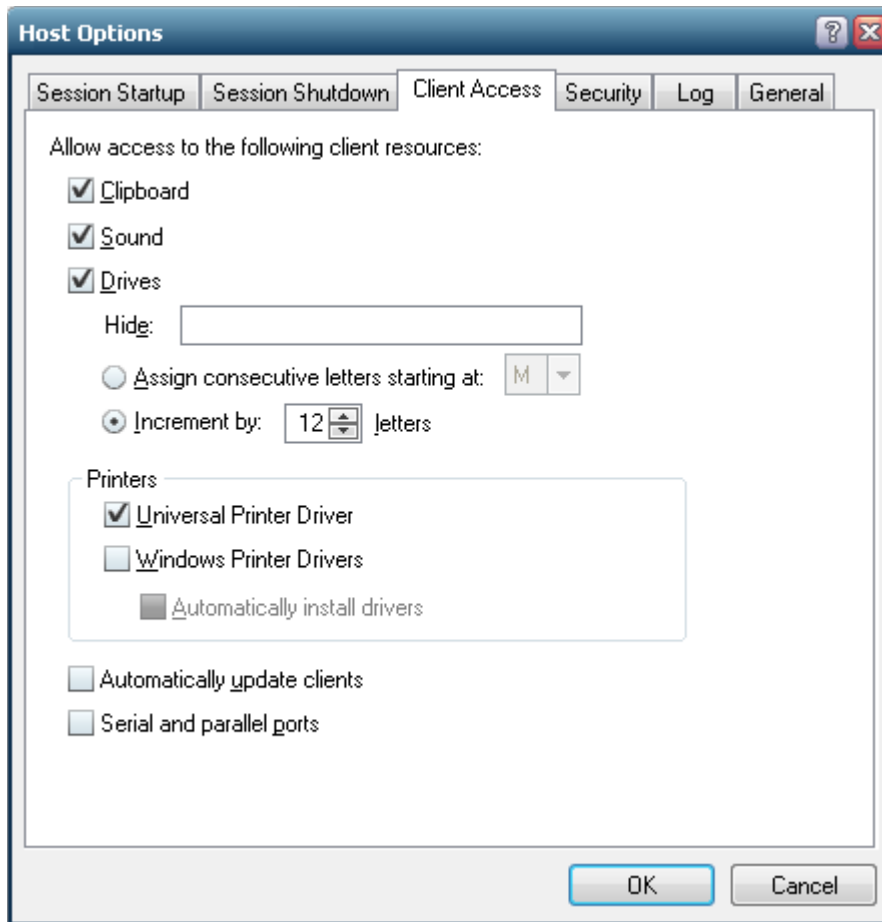
Example 1

For example, if a client computer has A, C, D, and H drives, and the starting point is set to drive letter M, the client's drives will be remapped respectively to M, N, O, and P. If a drive letter is already assigned to a drive, the next available letter is used. This feature is disabled by default. Once enabled, the default drive letter is M.



Example 2

For this example, if the client computer has the same drives as above (A, C, D, and H), and the offset is 12, each of the client's drives will be incremented by 12 letters. The drives will be remapped respectively to M, O, P, and T. The default value for this setting is 12.



Port Access

Server-based applications can access modems, handhelds, and other devices that are connected to the serial and parallel ports of the client computer. This feature uses the client file protocol to transfer data between the client device and the iFIX WebSpace Server. Client port access is enabled when the Serial and Parallel Ports option in the Host Options dialog is enabled. Serial and parallel port access is disabled by default.

IMPORTANT: Be aware that Client Serial and Parallel Ports requires the loading of iFIX WebSpace libraries into session processes. This can affect the startup of a process, make some processes incompatible with iFIX WebSpace, or have fatal consequences during suspend/resume operations. Use caution when enabling this setting. A message box appears and asks for confirmation when Serial and Parallel Ports is checked.

► To enable client port access:

1. In the iFIX WebSpace Administration, select the desired server from the list of All Servers.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the Serial and Parallel Ports check box. A message box appears.

5. Click Yes to continue.
6. Click OK to save your settings and close the Host Options dialog box.

Client Printing

Client printing is disabled by default. Administrators enable client-side printing through the Client Access tab on the iFIX WebSpace Administration's Host Options dialog.

By default, the iFIX WebSpace automatically detects the client's default printer information after the user logs in the iFIX WebSpace Server. This includes the default printer's port and printer driver. If the printer driver is not installed on the iFIX WebSpace Server, the iFIX WebSpace will attempt to locate the driver and automatically install it.

Client printers are temporarily installed on the iFIX WebSpace Server for the duration of the client's session. Printer drivers are installed permanently. Administrators can view the list of printers and drivers in the Printers folder on the iFIX WebSpace Server.

NOTES:

- *The Print Spooler Service must be running on the iFIX WebSpace Server in order to configure client printers.*
- *If a printer is physically connected to the iFIX WebSpace Server, and you want to allow printing from the web sessions to this printer, no additional configuration changes need to be made on the iFIX WebSpace Server or Web Session.*
- *If the printer on the iFIX WebSpace Server is a network printer, and you want to allow printing on the web sessions to this printer, you must add the network printer to the iFIX Web Server. As the administrator, you can set up network printers for use by iFIX WebSpace sessions. You must first create a port on the iFIX WebSpace Server that connects directly to the server and then install the printer locally. This provides direct access to the printer. If you want to allow network printing from the iFIX WebSpace Server within the web sessions, refer to the Network Printing and Setting up a Network Printer sections.*

Printer Driver Access

iFIX WebSpace can obtain printer drivers from the following sources:

Source	Description
Universal Printer Driver	Enables the use of the Universal Printer Driver that can print to any client printer. When only the Universal Printer Driver is enabled, only the Universal Printer Driver will be used as a printer driver. No native drivers will be used. This is the default setting. The Universal Printer Driver uses a standard printing properties dialog box and may not offer some of the more advanced printing options other drivers do. The Universal Printer Driver can be used when the native driver is not available. When neither the Universal Printer Driver or Windows Printer Drivers is enabled, no printers will be configured and client printing is disabled. NOTE: A printer named <i>Preview PDF</i> is configured in each session when the Universal Printer Driver is enabled. Documents printed to this printer are automatically converted to a .pdf file and displayed on the client computer. Users can save, print, or email the document at their discretion. A PDF reader, such as Adobe® Reader, is required on the client computer in order to use the Universal Printer Driver's PDF conversion feature.

Source	Description
Windows Printer Driver	Enables printers to be configured using already installed native drivers. When only the Windows Printer Drivers option is enabled, only native printer drivers that are installed on the iFIX WebSpace Server will be used. If a printer's native driver is not installed, that printer will not be configured. To allow the iFIX WebSpace to automatically install native printer drivers that ship with Microsoft Windows click the Automatically install drivers. The Windows Printer Driver option is preferred when configuring proxy printers, if they are available and if settings allow them to be used. Native drivers are selected in the following order: Printers Applet: A user's manual selection of a printer driver in the Printers window takes precedence over all other driver selection methods. The Printers Applet is accessible via the Program Window which is the first window of the Windows Desktop Client. Mapped Printer Drivers: MappedPrinterDrivers.xml contains a list of driver names that can be used for each driver. This file is generated by the Application Publishing Service, but can also be manually edited by administrators. For most iFIX WebSpace deployments, administrators will not need to edit this file. It is used to specify which driver to use when a host's driver name does not identically match the client's, or when the administrator wants to override native drivers and force clients to use a different printer driver or the Universal Printer Driver. The MappedPrinterDrivers.xml file is usually found in the C:\ProgramData\Proficy or C:\Documents and Settings\All Users\Application Data\Proficy folder. Client driver name: The driver with the exact name of the driver that is installed on the client is used to configure the proxy printer. IMPORTANT: If the Windows Printer Drivers option is disabled in the iFIX WebSpace Administration tool, this hierarchy is not applied. When both the Universal Printer Driver and the Windows Printer Drivers are enabled, and a printer's native driver is installed on the iFIX WebSpace Server, the printer's native driver will be used to configure the printer. If it is not installed on the iFIX WebSpace Server, the printer is configured to use the Universal Printer Driver. When Windows Printer Drivers and Automatically install drivers are enabled, only native printer drivers that are installed on the iFIX WebSpace Server or those that are included with Windows will be used. If a printer's native driver is not installed and it is not included with Windows, that printer will not be configured. When neither the Windows Printer Drivers or Universal Printer Driver is enabled, no printers will be configured and client printing is disabled.

► **To designate access to printer drivers:**

1. In the iFIX WebSpace Administration, select the desired server from the list of All Servers.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the check box next to the desired printer source: Universal Printer Driver or Windows Printer Driver.

NOTE: The Universal Printer Driver uses a standard printing properties dialog and may not offer some of the more advanced printing options other drivers do.

5. If you select the Windows Printer Driver and you want to allow for automatic installs of native drivers that ship with Windows, also select the Automatically Install Drivers check box.
6. Click OK.

► **To disable client printing:**

1. In the iFIX WebSpace Administration, select the desired server from the list of All Servers.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Clear the check boxes next to both the Universal Printer Driver and Windows Printer Driver fields.
5. Click OK.

NOTE: Client printers are temporarily installed on the iFIX WebSpace Server for the duration of the client's session. Printer drivers are installed permanently. Administrators can view the list of printers and drivers in the Printers folder on the iFIX WebSpace Server. If you start two or more web sessions, at the same time, with different user accounts from the same client system, client printers will only be available to the first session.

Network Printing

If the printer on the iFIX WebSpace Server is a network printer, and you want to allow printing from the web sessions to this printer, you must add the network printer to the iFIX WebSpace Server. First create a port on the iFIX WebSpace Server that connects directly to the server, and then install the printer locally. For steps, refer to the Setting up a Network Printer section.

If a printer is physically connected to the iFIX WebSpace Server, and you want to allow printing from the web sessions to this printer, no additional configuration changes need to be made.

NOTE: If you want to allow printing in web sessions from client printers, refer to the Client Printing section for information on how to configure.

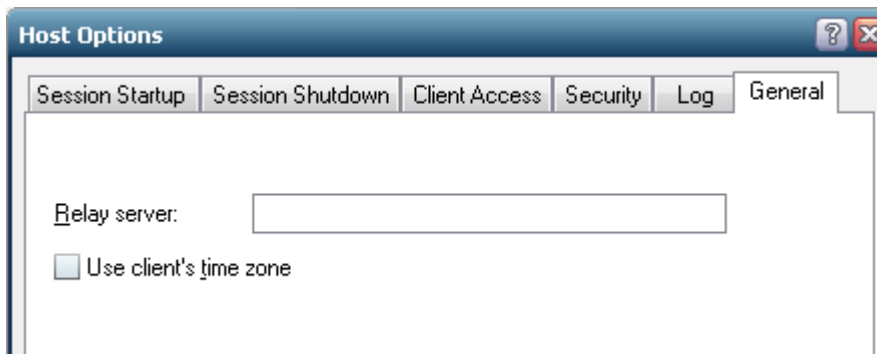
Client Time Zone Redirection

By default, all iFIX WebSpace sessions are run in the time zone of the iFIX WebSpace Server

machine. Administrators can opt to run iFIX WebSpace sessions in the time zone of the client computer by enabling the Use client's time zone option from the iFIX WebSpace Administration. With the Use client's time zone option selected, timestamps and associated data viewed from iFIX WebSpace sessions appear in the client's time zone instead of the iFIX WebSpace Server's time zone.

For example, alarms, charts (Standard and Enhanced), Historical Trend Display, Current Date Stamp, Current Time Stamp, and the Historical Datalink will show time stamps and data based on the web client's time zone if the "Use client's time zone" is selected. Otherwise, the time zone of the iFIX WebSpace Server is reflected in the time stamps and data being displayed.

The Client Time Zone feature is configured from the iFIX WebSpace Administration's Host Options dialog, as shown in the following figure.



IMPORTANT: Be aware that when you select the Client Time Zone check box that these settings also affect data retrieved by any VisiconX queries in your pictures.

► **To enable client time zone redirection:**

1. From the iFIX WebSpace Administration, from the Server tree, select the server name you want to configure.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the General tab.
4. Select the "Use client's time zone" check box.
5. Click OK.

Deploying and Running iFIX WebSpace Sessions

The iFIX WebSpace allows you to open iFIX or Proficy Pulse pictures in run mode from a web session. Users can connect to an iFIX WebSpace Server from any computer that supports an iFIX WebSpace session. The following clients are currently supported:

- Microsoft Internet Explorer Client
- Mozilla Firefox Client
- Microsoft Windows Desktop Client

Microsoft Internet Explorer Client

The iFIX WebSpace ActiveX Control is available to Windows users running Internet Explorer. The ActiveX control is automatically installed the first time a user accesses the iFIX WebSpace HTML page in Internet Explorer.

Loose vs. Embedded Mode

There are two modes in which you can run the Internet Explorer client: Loose and Embedded mode. Loose mode displays the WorkSpace in an application window (providing you with more screen real estate), while the Embedded mode displays the WorkSpace directly in an Internet Explorer window (in a single window).

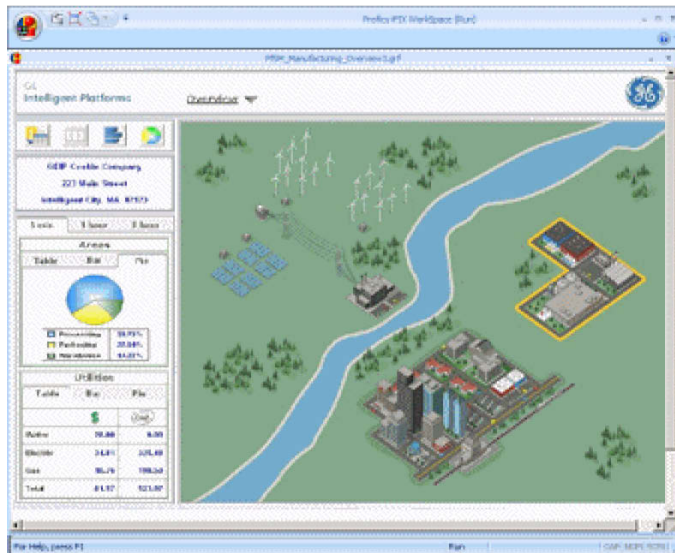
Embedded mode is the default setting. You can change this setting using a command line option, however. You can also launch in either loose or embedded mode using the AllClients.html web page, and selecting the Microsoft ActiveX: Loose or Embedded option.

NOTE: Do not use Embedded mode with FIX Desktop View. Use Loose mode with Internet Explorer in this case, or use the Microsoft Windows Desktop Client for the iFIX WebSpace.

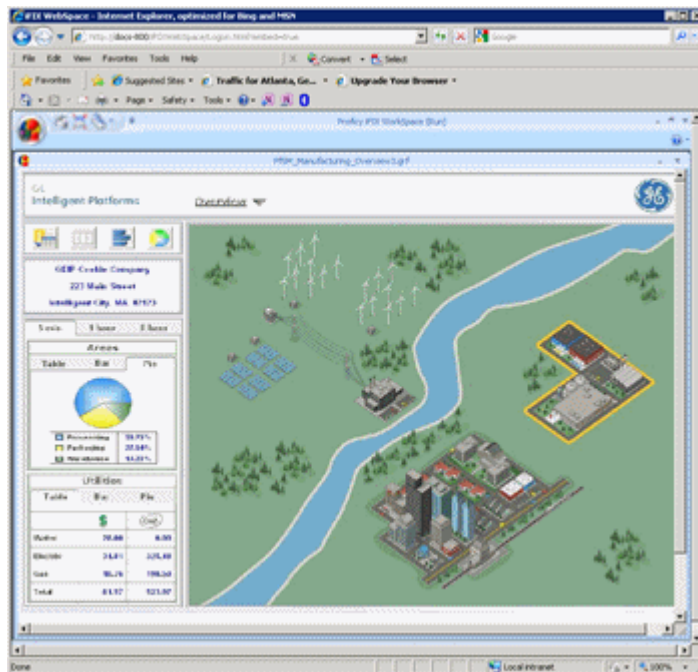
Loose Mode

NOTE: In loose mode, the browser window will automatically close if there are no other tabs open in the browser.

Viewing Pictures From a Web Browser



Embedded Mode



Installing the Client

The ActiveX control is automatically installed the first time a user accesses the iFIX WebSpace HTML page in Internet Explorer. By default this web page is:
<http://iFIXWebSpaceServerName/iFIXWebSpace>, where *iFIXWebSpaceServerName* is the computer name or IP address of your iFIX WebSpace Server.

You also can browse to the <http://iFIXWebSpaceServerName/iFIXWebSpace/AllClients.html> page to install and run this ActiveX control. The AllClients.html page allows you to specify Loose or Embedded mode when running.

Additionally, you can install this ActiveX control with the ifix-client.windows.exe installer provided in any of these locations:

- The iFIX DVD in the Setup\Proficy\WebSpace\WebSpaceServer subfolder.
- The iFIX WebSpace install folder in the Web\Clients path, which by default is the C:\Program Files\Proficy\iFIX WebSpace\Web\Clients folder.
- The iFIX WebSpace Server computer in the folder where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server.

Updating the Client

When users running the ActiveX Control connect to an iFIX WebSpace Server with an updated client for the same version, the ActiveX Control will update automatically when the user browses to the iFIX WebSpace page.

Running the Client

The iFIX WebSpace ActiveX control is automatically installed the first time a user accesses the iFIX WebSpace HTML page. To run the client, all you need to do is access the iFIX WebSpace Server HTML page.

NOTE: If you want to change the options available when you run the iFIX WebSpace Embedded ActiveX control, refer to the Command-line Options section below.

► To run the iFIX WebSpace ActiveX control:

1. Start Internet Explorer.
2. In the URL box, type http:// followed by the iFIX WebSpace Server computer name (or IP address) and then /iFIXWebSpace. For example:

`http://iFIXWebSpaceServerName/iFIXWebSpace`

An installation message box appears the first time you log on to this page.

3. Click Install. Trust the digitally signed ActiveX control.
4. When the Logon dialog appears, type the following information:
 - Your network user name in the User name field.
 - Your network password in the Password field.

NOTE: Users are allowed three invalid logon attempts before the logon process shuts down.

Uninstalling the Client

To uninstall the iFIX WebSpace ActiveX control, remove the iFIX WebSpace Class for the ActiveX control, and clear the browser cache.

► To uninstall the iFIX WebSpace ActiveX control:

1. Close Internet Explorer.

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2. Locate the iFIX WebSpace Class in WinNT or Windows\Downloaded Program files.
3. Right-click the file and click Remove.

► **To clear the browser cache:**

1. Open Internet Explorer.
2. On the Tools menu, click Internet Options. The Internet Options dialog box appears.
3. On the General tab, in the Temporary Internet Files area, click Delete Files. A message box appears.
4. Click OK to continue.

If you are still having difficulty, consult an administrator to check the Downloaded Program Files folder for iFIX WebSpace related files.

► **To check the Downloaded Program Files folder:**

1. Open a Command Prompt window.
2. Type the location of the Downloaded Program Files folder and check for any iFIX WebSpace related files. If any exist, delete them.
3. Close the Command Prompt window.

Command-line Information and Guidelines

Optionally, you can use command-line settings to override the defaults of your iFIX WebSpace session on open. You can do this by either:

- Directly entering the commands following the web address when you type it into the Address bar of Internet Explorer, or from the hyperlink command you refer to on a custom web page. For example, the address plus command-options could read like this:
`http://iFIXWebSpaceServerName/iFIXWebSpace/logon.html?embed=false&bInBrowser=false`
- Or-
- Changing the default settings for every user, by editing the Logon call in the index.html and index.htm files on the iFIX WebSpace Server in the directory where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server. For example, you would modify the `window.location.href = "logon.html?embed=true";` line in the index.html and index.htm files with the settings you want to change. For instance, you might want to change that line to allow for loose mode, instead of embedded mode: `window.location.href = "logon.html?embed=false";`

Be aware of the following when working with command-line options:

- Parameters are optional and case-sensitive. They can be appended in any order.
- Command-line options that are also configurable in the Administration tool, override the default settings in the iFIX WebSpace Administration tool.
- Before the first command-line option, and after the logon.html reference, add a ? symbol. For example: `logon.html?embed=false`.

- After the first command, each additional command that you add should be appended with the & symbol before the additional command. For example: embed=false&InBrowser=false.
- Spaces within parameters must be replaced with the %20 symbol.

► **To edit the Index.html and Index.htm page to change the command-line options for the default login page:**

1. Access the iFIX WebSpace Server computer, and locate the folder where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server.
2. Open the index.html or index.htm page in a text editor, such as Notepad.
3. Scroll to the following line:

```
window.location.href = "logon.html?embed=true";
```

4. Add or change the command line options. Refer to the Summary of Command-line Options for a full list of available options. For example, to enable loose mode instead of embedded mode, enter:

```
window.location.href = "logon.html?embed=false";
```

5. Save the file.

► **To use a custom hyperlink command to open a web page:**

1. Open a web page in an editor.
2. Choose the editor's Insert Hyperlink option.
3. Enter the address of the host, followed by the desired hyperlink parameters. Refer to the Summary of Command-line Options for a full list of available options. For example, to enable loose mode instead of embedded mode, enter:

```
http://iFIXWebSpaceServerName/iFIXWebSpace/logon.html?embed=false
```

4. Save the page.

Summary of Command-line Options

The following table describes the available command-line options for the iFIX WebSpace startup in Internet Explorer.

Option	Description
user=user_name	The name of the user's account.
password=actual_password	The user's password.
port=port_number	The port on which the iFIX WebSpace Server accepts connections. By default, this port number is 491.

Option	Description
autoclose=true false	This setting describes whether the browser window closes if you close the WorkSpace window within your iFIX WebSpace session. When autoclose=true, closing the program window closes the associated browser window and ends the user's iFIX WebSpace session. When autoclose=false, closing the program window ends the user's iFIX WebSpace session, but does not close the browser window. By default, autoclose=false.
embed=true false	This setting describes whether your web session runs in Loose mode or Embedded mode. When embed=true, iFIX WebSpace sessions run within the browser window (in Embedded mode). When embed=false, applications run outside the browser window (in Loose mode). By default, embed=true. NOTE: Do not use Embedded mode with FIX Desktop View. Use Loose mode with Internet Explorer in this case, or use the Microsoft Windows Desktop Client for the iFIX WebSpace.
bInBrowser=true false	This setting describes whether the iFIX WebSpace session will disconnect when a user closes the loose browser window, or browses to another page. The bInBrowser setting only applies to loose mode. In this mode, when bInBrowser=true, users will be disconnected from their iFIX WebSpace sessions when they close the browser or browse to another page. In these cases, the session will terminate on the server, based on the iFIX WebSpace Server's time-out settings for disconnected sessions. When bInBrowser=false, the iFIX WebSpace will run in a separate process and users will not be disconnected from their sessions when they close the browser or browse to another page. By default, bInBrowser=true.

Mozilla Firefox Client

The iFIX WebSpace Plug-in allows you to connect to an iFIX WebSpace Server using Mozilla Firefox. To connect to an iFIX WebSpace Server, browse to the iFIX WebSpace HTML page. If the plug-in is already installed on the client machine, it is automatically loaded and run by the browser. Otherwise, Mozilla Firefox prompts you to download the plug-in and install it on the desktop computer.

Loose vs. Embedded Mode

There are two modes in which you can run the Mozilla Firefox client: Loose and Embedded mode. Loose mode displays the WorkSpace in an application window (providing you with more screen real

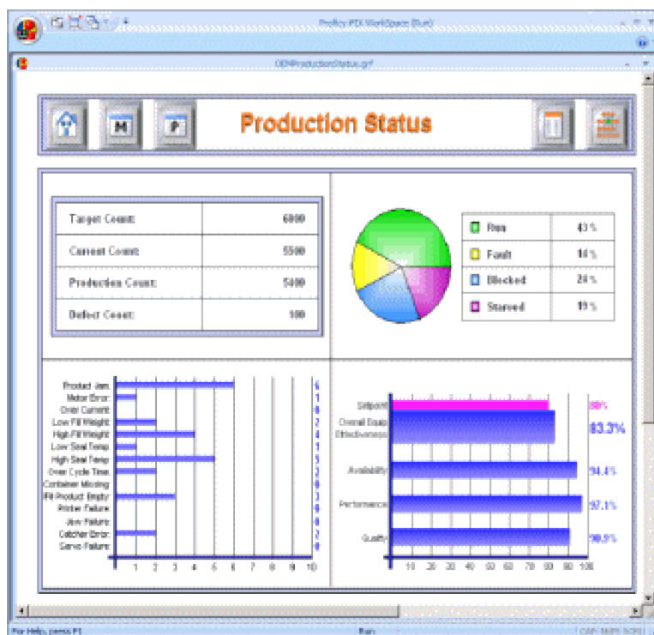
estate), while the Embedded mode displays the WorkSpace directly in a Mozilla Firefox window (in a single window).

Embedded mode is the default setting. You can change this setting using a command line option, however. You can also launch in either loose or embedded mode using the AllClients.html web page, and selecting the Plug-in: Loose or Embedded option.

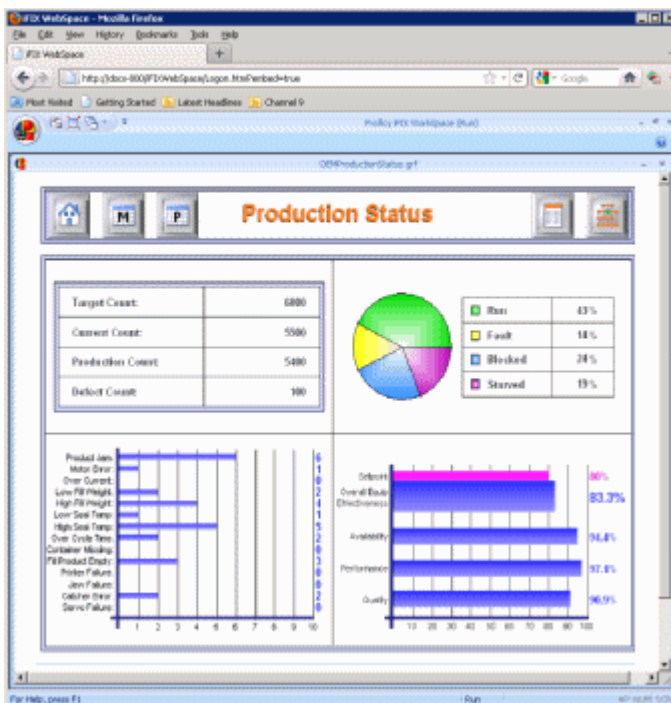
NOTE: Do not use Embedded mode with FIX Desktop View. Use Loose mode with Mozilla Firefox in this case, or use the Microsoft Windows Desktop Client for the iFIX WebSpace.

Loose Mode

NOTE: In loose mode, the browser window will automatically close if there are no other tabs open in the browser.



Embedded Mode



Installing the Client

If the plug-in is already installed on the client machine, it is automatically loaded and run by the browser. Otherwise, you are prompted to download the plug-in and install it on the desktop computer the first time you browse to this web page: <http://iFIXWebSpaceServerName/iFIXWebSpace>, where *iFIXWebSpaceServerName* is the computer name or IP address of your iFIX WebSpace Server.

You also can browse to the <http://iFIXWebSpaceServerName/iFIXWebSpace/AllClients.html> page to install and run this plug-in control. The AllClients.html page allows you to specify Loose or Embedded mode when running.

Additionally, you can install this plug-in with the `ifix-client.windows.exe` installer provided in any of these locations:

- The iFIX DVD in the Setup\Proficy\WebSpace\WebSpaceServer subfolder.
- The iFIX WebSpace install folder in the Web\Clients path, which by default is the C:\Program Files\Proficy\iFIX WebSpace\Web\Clients folder.
- The iFIX WebSpace Server computer in the folder where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server.

Updating the Client

Users who have installed the plug-in with Mozilla Firefox can update the plug-in via Firefox's Add-on manager. If you are unable to do that, you can also manually uninstall and then reinstall the plug-in.

NOTE: The Firefox Plug-in update feature does not work if you install the Windows Desktop Client installer (`ifix-client.windows.exe`). It only works when the web client has been installed via the web

browser page.

► **To update the FireFox Plug-in with the Add-on Manager:**

1. In Firefox, on the Tools menu, select Add-ons.
2. Click the Find Updates button.
3. Install the update.

Running the Client

The iFIX WebSpace Plug-in is automatically installed the first time a user accesses an HTML page containing the plug-in. To run the client, all you need to do is access the iFIX WebSpace Server HTML page.

NOTE: If you want to change the options available when you run the iFIX WebSpace plug-in, refer to the Command-line Options section below.

► **To run the iFIX WebSpace Plug-in:**

1. Start Mozilla Firefox.
2. In the URL box, type `http://` followed by the iFIX WebSpace Server computer name (or IP address) and then `/iFIXWebSpace`. For example:
`http://iFIXWebSpaceServerName/iFIXWebSpace`
3. Select the appropriate plug-in link from the list.
4. When the Logon dialog appears, type the following information:
 - Your network user name in the User name field.
 - Your network password in the Password field.

NOTE: Users are allowed three invalid logon attempts before the logon process shuts down.

Uninstalling the Client

To uninstall the iFIX WebSpace Plug-in, uninstall the plug-in and then clear the browser cache.

► **To uninstall the iFIX WebSpace Plug-in:**

1. Open Firefox.
2. On the Tools menu, click Add-ons. The Add-ons dialog box appears.
3. Click the Extensions tab and select the iFIX WebSpace Plug-in.
4. Click the Uninstall (or Remove) button.
5. Restart Firefox.

► **To clear the browser cache:**

1. Open Mozilla Firefox.

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2. On the Tools menu, click Options. The Options dialog box appears.
3. Click Advanced.
4. Click the Network tab.
5. In the Cache area, click Clear Now.

If you are still having difficulty, consult an administrator to check the Downloaded Program Files folder for iFIX WebSpace related files.

► **To check the Downloaded Program Files folder:**

1. Open a Command Prompt window.
2. Type the location of the Downloaded Program Files folder and check for any iFIX WebSpace related files. If any exist, delete them.
3. Close the Command Prompt window.

Command-line Information and Guidelines

Optionally, you can use command-line settings to override the defaults of your iFIX WebSpace session on open. You can do this by either:

- Directly entering the commands following the web address when you type it into the Address bar of Mozilla Firefox, or from the hyperlink command you refer to on a custom web page. For example, the address plus command-options could read like this:
`http://iFIXWebSpaceServerName/iFIXWebSpace/logon.html?embed=false&bInBrowser=false`
-Or-
- Changing the default settings for every user, by editing the Logon call in the index.html and index.htm files on the iFIX WebSpace Server in the directory where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server. For example, you would modify the `window.location.href = "logon.html?embed=true";` line in the index.html and index.htm files with the settings you want to change. For instance, you might want to change that line to allow for loose mode, instead of embedded mode, like this: `window.location.href = "logon.html?embed=false";`

Be aware of the following when working with command-line options:

- Parameters are optional and case-sensitive. They can be appended in any order.
- Command-line options that are also configurable in the Administration tool, override the default settings in the iFIX WebSpace Administration tool.
- Before the first command-line option, and after the logon.html reference, add a ? symbol. For example: `logon.html?embed=false`.
- After the first command, each additional command that you add should be appended with the & symbol before the additional command. For example: `embed=false&bInBrowser=false`.
- Spaces within parameters must be replaced with the %20 symbol.

► **To edit the Index.html and Index.htm page to change the command-line options for the default login page:**

1. Access the iFIX WebSpace Server computer, and locate the folder where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server.
2. Open the index.html or index.htm page in a text editor, such as Notepad.
3. Scroll to the following line:

```
window.location.href = "logon.html?embed=true";
```

4. Add or change the command line options. Refer to the Summary of Command-line Options for a full list of available options. For example, to enable loose mode instead of embedded mode, enter:

```
window.location.href = "logon.html?embed=false";
```

5. Save the file.

► **To use a custom hyperlink command to open a web page:**

1. Open a web page in an editor.
2. Choose the editor's Insert Hyperlink option.
3. Enter the address of the host, followed by the desired hyperlink parameters. Refer to the Summary of Command-line Options for a full list of available options. For example, to enable loose mode instead of embedded mode, enter:

```
http://iFIXWebSpaceServerName/iFIXWebSpace/logon.html?embed=false
```

4. Save the page.

Summary of Command-line Options

The following table describes the available command-line options for the iFIX WebSpace startup in Mozilla Firefox.

Option	Description
user=user_name	The name of the user's account.
password=actual_password	The user's password.
port=port_number	The port on which the iFIX WebSpace Server accepts connections. By default, this port number is 491.

Option	Description
autoclose=true false	This setting describes whether the browser window closes if you close the Workspace window within your iFIX WebSpace session. When autoclose=true, closing the program window closes the associated browser window and ends the user's iFIX WebSpace session. When autoclose=false, closing the program window ends the user's iFIX WebSpace session, but does not close the browser window. By default, autoclose=false.
embed=true false	This setting describes whether your web session runs in Loose mode or Embedded mode. When embed=true, iFIX WebSpace sessions run within the browser window (in Embedded mode). When embed=false, applications run outside the browser window (in Loose mode). By default, embed=true. NOTE: Do not use Embedded mode with FIX Desktop View. Use Loose mode with Mozilla Firefox in this case, or use the Microsoft Windows Desktop Client for the iFIX WebSpace.
bInBrowser=true false	This setting describes whether the iFIX WebSpace session will disconnect when a user closes the loose browser window, or browses to another page. The bInBrowser setting only applies to loose mode. In this mode, when bInBrowser=true, users will be disconnected from their iFIX WebSpace sessions when they close the browser or browse to another page. In these cases, the session will terminate on the server, based on the iFIX WebSpace Server's time-out settings for disconnected sessions. When bInBrowser=false, the iFIX WebSpace will run in a separate process and users will not be disconnected from their sessions when they close the browser or browse to another page. By default, bInBrowser=true.

Microsoft Windows Desktop Client

The Windows Desktop Client allows you to view Workspace pictures from a desktop application using web services. It does not require Internet Explorer or Mozilla Firefox. Optionally, you can customize the command-line settings you use to open this Desktop Client. The following figure shows an example of the Windows Desktop Client in use.



Installing the Windows Desktop Client

You can install the desktop client with the `ifix-client.windows.exe` installer provided on the iFIX WebSpace Server computer in the folder where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server, or from the iFIX WebSpace install folder, which is the `C:\Program Files\Proficy\iFIX WebSpace\Web\Clients` folder by default. You can also install it using the `AllClients.html` web page, and selecting the Windows Client option.

► To install the Windows Desktop Client:

1. Obtain the `ifix-client.windows.exe` installer from the:
 - iFIX WebSpace Server computer in the directory where you publish the iFIX WebSpace files to be hosted by your IIS or Apache server.
 - iFIX DVD in the `Setup\Proficy\WebSpace\WebSpaceServer` subfolder.
 - iFIX WebSpace install folder, which is by default the `C:\Program Files\Proficy\iFIX WebSpace\Web\Clients` folder.
 - The `AllClients.html` web page, which allows you to download and run the file on the client computer.
2. Copy this file to the client computer.
3. Double-click `ifix-client.windows.exe` to start the install. The Welcome screen appears.
4. Click Next to continue. The License Agreement screen appears.
5. Select the "I accept the terms in the license agreement" and click Next to continue. The Setup Type screen appears.
6. Select Complete (which includes the Desktop Client, as well as the Internet Explorer, and Firefox plug-in), or Custom (to choose only the Desktop Client), and then click Next. The Ready to Install screen appears.
7. Click Install. After a few moments, the Completion screen appears.

8. Click Finish.
9. Confirm that the Desktop Client short-cut appears on the Start menu (on the Start menu, point to Programs > iFIX WebSpace Client > iFIX WebSpace Client).

Running the Windows Desktop Client

The iFIX WebSpace Windows Desktop Client can be run by selecting the option on the Start menu, or by running a custom short-cut.

NOTE: If you want to change the options available when you run the Windows Desktop Client, refer to the *Command-line Options* section below.

► To run the Windows Desktop Client:

1. On the Start menu, point to Programs > iFIX WebSpace Client > iFIX WebSpace Client. The Desktop Client appears.

-Or-

Double-click the short-cut you created to start the Windows Desktop Client. The Desktop Client appears.

2. When the Logon dialog appears, type the following information:

- Your network user name in the User name field.
- Your network password in the Password field.

NOTE: Users are allowed three invalid logon attempts before the logon process shuts down.

Uninstalling the Windows Desktop Client

To uninstall the Windows Desktop Client, use the Add or Remove Programs option in the Windows Control Panel.

► To uninstall the iFIX WebSpace Desktop Client:

1. From the Control Panel, select Add or Remove Programs. The Add or Remove Programs dialog box appears.
2. Select the iFIX WebSpace Client in the list of programs.
3. Click Remove.
4. Follow the instructions on your screen.

Command-line Information and Guidelines

Optionally, you can use command-line settings to override the defaults of your Windows Desktop Client session on open. You can do this by either:

- Changing the default settings you use on the Start menu to open the Windows Desktop Client, by changing the Properties on the shortcut.

-Or-

- Creating a new shortcut with the command-line options that you want to use.

Be aware of the following when working with command-line options:

- Parameters are optional and case-sensitive. They can be appended in any order.
- Command-line options that are also configurable in the Administration tool, such as `-hp` and `-ac`, override the default settings in the iFIX WebSpace Administration tool.
- Command-line options can only be appended to desktop shortcuts that call the "C:\Program Files\Proficy\iFIX WebSpace Client\Client\iFIX.exe" file.
- In order to accommodate spaces in user names and passwords, quotation marks must be included when using command-line arguments.

► **To modify the default settings on the Start menu option, for the Windows Desktop Client:**

1. On the Start menu, point to Programs > iFIX WebSpace Client > iFIX WebSpace Client.
2. Right-click the iFIX WebSpace Client and select Properties. The iFIX WebSpace Client Properties dialog box appears.
3. On the Shortcut tab, in the Target field, add parameters you want to include after the path to iFIX.exe. Refer to the Summary of Command-line Options for a full list of available options. For example, this option will open the Windows Desktop Client with a server named MyServer:

"C:\Program Files\Proficy\iFIX WebSpace Client\Client\iFIX.exe" -h MyServer

4. Click OK to save your changes.

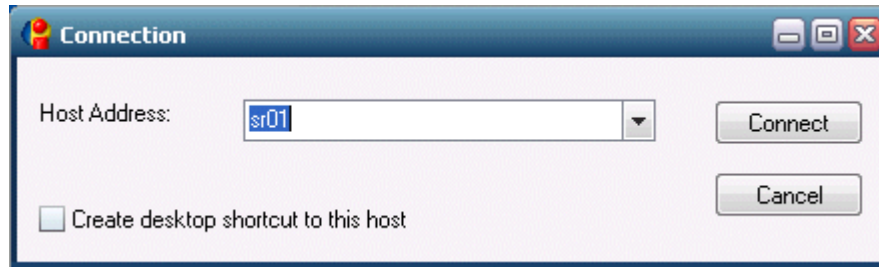
► **To create a desktop shortcut for Windows Desktop Client:**

1. Right-click on the desktop, and select New and then Shortcut. The Create Shortcut dialog box appears.
2. In the Create Shortcut dialog box, browse to the iFIX WebSpace executable file: "C:\Program Files\Proficy\iFIX WebSpace Client\Client\iFIX.exe"
3. Add parameters after the path to iFIX.exe. Refer to the Summary of Command-line Options for a full list of available options. For example, this option will open the Windows Desktop Client with a server named MyServer:

"C:\Program Files\Proficy\iFIX WebSpace Client\Client\iFIX.exe" -h MyServer

4. Type a name for the shortcut and click Finish.

TIP: You can also create a Desktop shortcut automatically from the Connection dialog box. When you click on the Start menu, and point to Programs > iFIX WebSpace Client > iFIX WebSpace Client, a dialog box appears similar to the following figure. You can select the Create Desktop Shortcut to this Host option, as shown in the following dialog box.



Summary of Command-line Options

The following table describes the available command-line options for the iFIX WebSpace startup in the Windows Desktop Client.

Option	Description
-u user_name	The name of the user's account.
-p actual_password	The user's password.
-hp port_number	The port on which the iFIX WebSpace Server accepts connections. By default, this port number is 491.
-h host_name	The name or IP address of your iFIX WebSpace Server machine.
-f (0 1)	This setting describes whether each session will be displayed in a bounding window. When you use -f followed by a 1, all applications running in the session will be displayed within a bounding window. When you follow the -f respectively with a 0, applications will be displayed within their own individual windows.

Automatically Update the Desktop Client Version

Administrators can configure the iFIX WebSpace Server to automatically update the iFIX WebSpace Desktop Client when a user connects to an iFIX WebSpace Server that is running a newer version. When enabled, when a user tries to connect and an upgrade is available, the following message appears:

"An update has been downloaded and will be available the next time you run the iFIX WebSpace."

NOTE: The *Automatically Update Clients* option on the *Client Access* tab of the *iFIX WebSpace Administration* tool is only available for the *Windows Desktop Client*. It does not apply to other clients such as *Mozilla Firefox* and *Internet Explorer*.

► **To enable automatic Windows Desktop Client updates:**

1. From the iFIX WebSpace Administration, from the Server tree, select the server name you want to configure.
2. On the Tools menu, click Host Options. The Host Options dialog box appears.
3. Click the Client Access tab.
4. Select the "Automatically Update Clients" check box.
5. Click OK.

Overview of All Clients

The AllClients.html page on the iFIX WebSpace Server describes all supported and available experimental clients. From here, you can also install the client. By default, this file is located on the iFIX WebSpace Server computer in the folder where you publish the files to be hosted by your IIS or Apache server.

The following clients are currently supported:

- Microsoft Internet Explorer Client
- Mozilla Firefox Client
- Microsoft Windows Desktop Client

For information on client version numbers, refer to the System Requirements section.

AllClients.html

To start the iFIX WebSpace using the AllClients.html page, enter the following address in your web browser:

`http://iFIXWebSpaceServerName/iFIXWebSpace/AllClients.html`

Illustration of AllClients.html

The following figure illustrates the options on the AllClients.html web page and the clients that you can install.



Advanced Topics

The following sections provide information on advanced topics that may not be referenced frequently:

- Session Balancing
- Terminal Services and iFIX WebSpace
- Tips on Administrating User Accounts
- Windows Configuration for Network and Client Printers
- Working with the IIS Web Server

Session Balancing

Session balancing is a technique used by the Relay Server to spread the work for the iFIX WebSpace Server across two or more dependent application servers. The Relay Server maintains and distributes the client connections across each of the dependent application servers.

Session balancing:

- Allows iFIX WebSpace sessions to be distributed across multiple dependent application servers.
- Is needed when the server resource requirements for a deployment exceed the capacity of a single server computer.
- Is done automatically and is transparent to the user.

The goals of session balancing include:

- Optimal resource utilization.
- Maximized throughput.
- Minimized response time.

Session Balancing Requirements

- The iFIX WebSpace Server must be installed on each of the servers in the configuration (on the Relay Server and each dependent application server), along with IIS or Apache HTTP Server.
- Each dependent application server should be configured the same, with the same installed software and settings. In other words, all software, pictures, and network access must be the same on each dependent application server in your configuration.
- Dependent application servers must be located on the same network as their associated Relay Server.
- Users are authenticated on dependent application servers, and on the Relay Server.

- iFIX View nodes cannot connect directly to dependent application servers.

Host Selection

When a client connects to a Relay Server, the Relay Server attempts to start a session on the dependent application server (host) that has the lowest number of running sessions as a percentage of the maximum number of sessions allowed for the host.

If the session fails to start on the selected host, the Relay Server successively attempts to start the session on other available hosts until it finds one that can support the session.

If there are no available hosts (for instance, if the number of running sessions on All Hosts equals the maximum number allowed), the following message is displayed to the user: You are already running as many sessions as you are allowed.

Otherwise, if the session cannot be started on any of the available dependent application servers, the following message is displayed to the user: iFIX WebSpace failed to launch the Program Window for your session. The problem is explained in your System Administrator's log file.

In a Relay Server configuration, the iFIX WebSpace checks the maximum sessions settings on the Relay Server and its dependent servers. The maximum sessions value on the Relay Server is the maximum number of sessions that can be run concurrently on all dependent hosts assigned to that Relay Server. To modify the Maximum sessions on this host setting, open the iFIX WebSpace Administrator on the Dependent Application Server, and on the Host Options dialog box, select the Session Startup tab.

Relay Server Failure Recovery

On Windows hosts, the Application Publishing Service can be configured to automatically restart if the service fails. If a Relay Server fails, clients are disconnected but sessions continue to run on the dependent servers that were connected to the Relay Server. These dependent servers will attempt to reconnect to the Relay Server every 15 seconds. When a dependent server reconnects to the Relay Server, it re-adds its sessions to the Relay Server and restores any state information associated with the disconnected sessions. Clients are then able to sign back in and resume their sessions. Clients do not automatically attempt to reconnect to the Relay Server.

In order to provide higher service availability, a separate failover server can be configured for the iFIX WebSpace Relay Server using the Microsoft Cluster Service. The iFIX WebSpace Relay Server was tested with the Microsoft Cluster Service (MSCS) on Windows Server 2003. Windows Server 2008 also supports MSCS as Windows Server Failover Clustering. In an MSCS configuration, if the Relay Server fails for any reason, the failover server immediately takes the place of the failed server. Application hosts automatically reconnect to the failover server, and users will generally be able to log on and reconnect to their disconnected sessions within 1-2 minutes of the Relay Server failure.

Terminal Services and iFIX WebSpace

When using Terminal Services and the iFIX WebSpace Server:

- The Terminal Server cannot run on the same machine as the iFIX WebSpace Server.
- The Terminal Services remote desktop is supported to remotely configure and administer a server.

- Terminal Services must run in administrative mode; do not use remote desktop for applications.
- On Windows 2003 and Windows 2008, remote desktop provides you with two remote desktop connections as well as the console.

Tips on Administrating User Accounts

How Logins Work

To access applications on an iFIX WebSpace Server, clients must sign in to the server machine. When a user starts an iFIX WebSpace client, a prompt appears for a user name and password. This information is optionally encrypted (by default) and passed to the iFIX WebSpace Application Publishing Service running on the iFIX WebSpace Server. The iFIX WebSpace Application Publishing Service then performs the logon operation on the iFIX WebSpace Server using standard multi-user features of Windows. Next, the iFIX Security Login dialog box appears for the iFIX login. The user names and passwords should be the same for Windows and iFIX Security. (Optionally, you can configure password caching on the client for subsequent logins. For more information, refer to the Client-Side Password Caching section.)

When a user signs in to an iFIX WebSpace Server and a domain is not specified, the iFIX WebSpace Server first attempts to authenticate the account on the local machine, followed by the machine's domain, and lastly the trusted domains. Users can override this default behavior and specify a domain by typing the domain name followed by a backslash (\) and their network user name in the User name box of the Sign In dialog box (for example, NORTH\johng).

When a local user name on the iFIX WebSpace Server is the same user name as a domain account, each with a different password, iFIX WebSpace treats them as two separate accounts. Consider, for example, the following scenario:

- A local account on the GO-Global Host johng with a password of local
- A domain account johng with a password of domain

When typing the user name johng with the password local in the Sign In dialog, the account will authenticate on the local iFIX WebSpace Server. When typing johng with the password domain in the Sign In dialog, the iFIX WebSpace does not attempt to authenticate on the domain, but fails with an invalid user name or password. You must specify the domain name in the User name field in the Sign In dialog box (for example, NORTH\johng).

After a user is signed in, the iFIX WebSpace relies on the server's operating system to provide the security necessary to run applications safely in a multi-user environment. Applications run in the security context of the client user; this ensures private sessions. Access to all machines and network resources is governed by the operating system and the rights that have been granted to individual user's sessions.

Users must be able to log on interactively (locally) on the iFIX WebSpace Server. Assign local logon rights to users in Local Security Policy, Domain Security Policy, and Domain Controller Security Policy.

User Account Guidelines

- The same user name and password combination must be added to your user accounts in

Windows and in iFIX to become a valid iFIX WebSpace user.

- When adding user accounts in Windows, you can add them to the Workgroup or a Domain. However, it is preferable to use a Domain. Otherwise, you will need to map network drives, and use logon scripts.
- iFIX Windows Security must be enabled for each user you add on your iFIX WebSpace Server in the iFIX Security Configuration program.
- When adding users through the Security Configuration application in iFIX, be sure to select the Windows Security option for the user.
- If you want to use iFIX WebSpace with FIX Desktop, be aware that because iFIX security is enabled, logged in users must be authorized with the "FIX32 - Run a Task From View" rights in the iFIX Security Configuration application.
- When assigning security privileges in iFIX, use care when allowing application features that could allow write access, such as the "Database Save/Reload" and "Runtime Visual Basic Editor" features, as well as creating pictures with Datalinks, or any other means to write values into tags. Use Security Areas and Security Groups to further restrict access. Also, use care when creating and sharing schedules in iFIX, so that unintended VBA code is not activated inadvertently by web sessions. For more information on iFIX Security, refer to the Configuring Security Features e-book.
- The iFIX WebSpace Server and an iFIX SCADA Server should reside on the same network.
- The iFIX WebSpace Relay Server and dependent application servers with the iFIX WebSpace installed, should all reside on the same network.

Windows Configuration for Network and Client Printers

Your system may require the following Windows configuration to insure successful iFIX WebSpace client printing.

- Custom names for client printers.
- Network printer setup.
- Client printers in a multi-server environment.

Custom Names for Client Printers

The iFIX WebSpace installs a printer on the server for each printer that is configured on the client machine. These printers are called proxy printers and are the printers that are seen by users when printing via the iFIX WebSpace session.

NOTE: By default, the name for the client's proxy printer installed on the iFIX WebSpace Server is "<client printer name> (from <client machine name>)." So, for instance, if the client machine is named *HRWorkstation* and has a printer named "Xerox Phaser 6180MFP" attached to it, then the client's proxy printer on the iFIX WebSpace Server will be named "Xerox Phaser 6180MFP (from HRWorkstation)."

Since multiple users connect to an iFIX WebSpace Server, these printers must be filtered so that users see only their own printers. This requires that each printer be assigned a unique identifier. A system administrator can specify the proxy printer format to insure that each printer has a unique identifier. In addition, information can include the:

- User's name.
- Client computer's IP address.
- Client machine name.

► **To customize the printer name:**

1. Open the Windows Registry Editor.
2. Expand the HKEY_LOCAL_MACHINE key.
3. Locate the PrinterNameFormat key:
[SOFTWARE\Proficy\iFIX WebSpace\AppServer\PrinterNameFormat]
4. Right-click PrinterNameFormat; select Modify on the Popup menu. (The default is “(from %C)”.)
5. Enter one or more of the client printer customization tokens in the Value field. The available values are:

Argument	Description	Example
%U	User name	Wilson
%I	Client IP address	192.168.100.14
%M	Client MAC address	001122334455
%C	Client machine name	HRWorkstation
%S	Server machine name	Server1

6. Save and close the Registry Editor.
7. Restart the iFIX WebSpace Server.

PrinterNameFormat Guidelines

- The following 2 characters are taken literally in the PrinterNameFormat string; they are not tokens:
- @
- 12 characters that are not allowed are:
! , \ = / : * ? " < > |

If any of these characters are used in the string, they are replaced with a hyphen.

Network Printer Setup

As the administrator, you can set up network printers for use by iFIX WebSpace clients. You must first create a port on the iFIX WebSpace Server that connects directly to the server and then install the printer locally. This provides direct access to the printer.

IMPORTANT: Network printers are set up using the Windows Add Printer Wizard, and not the Client Printer Wizard, which is accessible through the Program Window.

► To add a port to the iFIX WebSpace Server:

1. On the Start menu, point to Settings and then click Printers. A new window opens.
2. Double-click the Add Printer icon.
3. Select local printer.
4. Click Next.
5. Click Create a new port; select Local Port as the type.
6. Click Next.
7. Type the UNC path to the printer in the Port Name dialog box. For example: you could enter \\PRINTSERVER\LASERPRINTER or the printer's IP address.
8. Do one of the following:
Select the printer manufacturer on the left and the printer model on the right.

-Or-

Click Have Disk.
9. Follow the directions provided by the Add Printer Wizard to install the proper printer driver.

Client Printers in a Multi-Server Environment

In a multi-server environment, a single Driver server can be a central location for printer drivers. The Driver server acts as a repository for all printer drivers that are available to iFIX WebSpace clients. Printer drivers that are installed on the Driver server are replicated on each application server when a user requiring them logs onto the iFIX WebSpace Server.

When a user configures a printer with a driver that is not already available on the Driver server, that driver is replicated on the Driver server and is available to all application servers with access to that Driver server.

If the Driver server and the Relay Server are:

- The same machine, no additional setup is required.
- Separate machines, the Driver server must:
 - Be accessible from the application servers.
 - Have a print\$ share that points to the printer driver directory.

Users need:

- Read access to this share in order to install drivers from the Driver server.
- Write access to this share in order to install drivers to the Driver server.

Working with the IIS Web Server

IIS Installed Folder Location

If the iFIX WebSpace is installed on a computer with IIS, the installer will:

- Locate the root IIS Web directory that is identified in the Windows Registry.
- Install the client files (iFIXWebSpace folder) under that directory.

iFIX WebSpace Server Installed Folder Location

The iFIX WebSpace Server installs the client files in the iFIX WebSpace\Web\Clients folder. The default location is:

C:\Program Files\Proficy\iFIX WebSpace\Web\Clients

Reference Information

For additional information on working with the iFIX WebSpace product, refer to the following supplementary sections:

- How Do I...
- Keyboard Shortcuts for the iFIX WebSpace Administration
- Editing Application Startup Properties

How Do I...

Refer to the following sections for additional information and step-by-step procedures:

- Running the iFIX WebSpace Administration
- Add iFIX WebSpace Server performance counters to the Performance Monitor
- Applying group policy
- Hidden drives
- Configuring multiple input locales
- Designate access to printer drivers
- Display session startup progress messages to users
- Edit iFIX or Proficy Pulse startup properties
- Enable client sounds
- Enable client time zone redirection
- Enable clipboard access
- Enable encryption
- Enable file usage restrictions
- Enable support for client drives
- End a user's processes
- Enable the Status bar in the Administration application
- Hide one or more client drives
- Hide server drives
- Increment client drive letters by a fixed value
- Limit the number of sessions per user
- Limit the number of sessions per iFIX WebSpace Server
- List client drives sequentially starting at a given drive letter
- Modify the server port setting

Viewing Pictures From a Web Browser

- Refresh the iFIX WebSpace Administration
- Run a user-specific logon script
- Run a global logon script
- Run the iFIX WebSpace ActiveX Control
- Run the iFIX WebSpace Plug-in
- Run the Windows Desktop Client
- Shadow a session
- Select a new location for the Log files
- Set output level for the logging
- Set permissions and restrictions for a file or an application
- Set the Refresh Rate on the iFIX WebSpace Administration
- Set up a network printer
- Specify the minimum available physical memory necessary for this server to start a session
- Specify the minimum percentage of virtual memory necessary for this server to start a session
- Terminate a user's session
- View process information on the iFIX WebSpace Administration
- View session information on the iFIX WebSpace Administration

Keyboard Shortcuts for the iFIX WebSpace Administration

Keyboard Combination	Action/Result
Application Tab	
Double-click application	Displays Application Properties dialog box
CTRL+A*	Displays Application Properties dialog box
Sessions Tab	
DELETE	Terminates selected session
Processes Tab	
DELETE	Terminates selected process

Keyboard Combination	Action/Result
General	
CTRL+TAB	Cycles through tabs
CTRL+SHIFT+TAB	Reverse cycles through tabs
CTRL+P	Displays Options dialog box
CTRL+B	Turns Status Bar on or off.
F1	Displays Help for the iFIX WebSpace Administration
F5	Refreshes the Sessions, Processes, and Applications tabs
ALT+F4	Exits the iFIX WebSpace Administration

* The Launch.exe application must be selected in order for these keyboard shortcuts to work.

Editing Application Startup Properties

When you first configure the iFIX WebSpace Server, you can enter the SCU path and name into the Applications tab. If you want to change it again, you need to restart the iFIX WebSpace Application Publishing Service after you make the change.

► To edit iFIX or Proficy Pulse startup properties:

1. From the iFIX WebSpace Administration, in the main window, click the Applications tab.
2. From the list of applications, select Launch.exe.
3. Click Properties. The Application Properties dialog box appears.
4. In the Command-Line Options field, type the .SCU file name and path.

NOTE: If you are changing an SCU name that was already entered, you will need to restart the iFIX WebSpace Application Publishing Service after you make the update for your changes to get applied.

5. If you have changed this value two or more times, restart the iFIX WebSpace Application Publishing Service. For steps, refer to the Restarting the iFIX WebSpace Application Publishing Service section.

Glossary

A

ActiveX

A set of technologies and tools developed by Microsoft® Corporation that enable software components to interact with one another in a networked environment, regardless of the language in which the components were created.

B

Bandwidth

A measure of the volume of information that can be transmitted over a communications link. Technically, bandwidth refers to the width of the frequency spectrum available on a certain technology.

Batch file

An ASCII text file containing a sequence of operating-system commands, possibly including parameters and operators supported by the batch command language. When the user types a batch filename at the command prompt, the commands are processed sequentially. Also called batch program.

Binary file

A file consisting of a sequence of 8-bit data or executable code, as distinguished from files consisting of human-readable ASCII text. Binary files are usually in a form readable only by a program, often compressed or structured in a way that is easy for a particular program to read.

Bridge

A device that connects networks using the same communications protocols so that information can be passed from one to the other. A device that connects two local area networks, whether or not they use the same protocols

C

Client/Server Model

A model of computing whereby client applications running on desktops or personal computers access information on remote servers or host computers.

D-E

Dependent Application Server

A dependent application server is an iFIX WebSpace Server that is connected to a Relay Server, and shares the iFIX WebSpace sessions as directed by the Relay Server. A dependent application server also has the iFIX WebSpace Server installed, along with IIS or Apache HTTP Server. However, unlike the Relay Server, only a few configuration items are entered in the iFIX WebSpace Administration application on each dependent application server. These items include the Relay Server name, the Maximum Number of Sessions setting, the Minimum Available Physical Memory setting, the Minimum Available Virtual Memory setting, and the Client Access printer driver settings.

Each dependent application server (installed software and settings) should be a clone of the Relay Server. In other words, all software, pictures, and network access must be the same.

Domain

A group of computers and devices on a network that are administered as a unit with common rules and procedures.

F

File Allocation Table

A list or table maintained to keep track of all the parts of a file so they can be linked together when the file is used again. Also referred to as the FAT file system.

G

Gateway

A computer that forwards and routes data between two or more networks of any size.

Group

An account containing other accounts called members. The rights and permissions assigned to a group

are also provided to its members.

H

Host

Any computer that provides services to remote users.

HTTP

The communication protocol used to connect servers on the World Wide Web.

I

iFIX WebSpace Server

A computer that has the iFIX WebSpace Server software installed on it.

iFIX WebSpace Administration

A 32-bit Windows application that is installed on an iFIX WebSpace Server. The iFIX WebSpace Administration is used by iFIX WebSpace Administrators to manage Proficy iFIX WebSpace user access.

iFIX WebSpace Application Publishing Service

A service that receives client connection requests, authenticates users on the iFIX WebSpace Server, and launches the iFIX WebSpace sessions.

J

JavaScript

A scripting language developed by Netscape to help Web authors create and customize applications. Although JavaScript is commonly confused with Java, it was developed independently.

L

LAN

A group of computer systems in close proximity that can communicate with one another via some connecting hardware and software.

M

Menu Bar

The horizontal bar below the title bar that contains the names of all the application's menus.

N

Network

A communications system that links two or more computers.

Network Computer

Computers or terminals with little or no memory or disk storage, network computers (NCs) are designed to connect to a network. NCs are more affordable than PCs and can be administered from a central network server.

Network Drive

On a local area network, a disk drive whose disk is available to other computers on the network. Access to a network drive might not be allowed to all users of the network; many operating systems contain security provisions that enable a network administrator to grant or deny access to part or all of a network drive.

O-P

Port

A connection point on your computer where you can connect devices that pass data into and out of a computer, such as a printer.

R

Relay Server

The Relay Server is a Web server that provides centralized control over the iFIX WebSpace Server, providing the session balancing across a number of dependent application servers. The Relay Server maintains and distributes the client connections across each of the dependent application servers.

Remote Access

The hookup of a remote computing device via communication lines such as phone lines or wide area networks to access network applications and information.

S

Server

Networked computer that provides resources or services to remote clients.

SMTP

The Internet standard protocol for transferring electronic mail messages from one computer to another. SMTP specifies how two mail systems interface and the format of control messages they exchange to transfer mail.

Status Bar

Usually located at the bottom of a window, the status bar provides information relating to the application.

T

TCP/IP

A combined set of protocols that performs the transfer of data between two computers. TCP monitors and ensures correct transfer of data. IP receives the data from TCP, breaks it up into packets, and ships it off to a network within the Internet.

Title bar

The horizontal bar that contains the title of the window. The title bar is located at the top of the window.

U

URL

The name that uniquely identifies a page of a hypertext document accessible via the World Wide Web. For example: <http://www.ge-ip.com/support>

User Profile

A user profile includes all the per-user settings of the user's desktop environment, such as screen colors, screen savers, printer connections, window size and position, desktop arrangement, and so on.

W

WAN

A set of computers located in geographically diverse locations and connected for the purpose of sharing applications and data.

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Proficy* HMI/SCADA - iFIX* WebSpace - 12.11

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